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ABSTRACT

This study examined the ways in which current practices described in the middle school literature on meeting the needs of diverse learners are reflected in the policies, beliefs, and instructional practices of administrators and teachers. A survey of 125 principals asked about school characteristics, school organization, principal beliefs, curriculum, instruction, and assessment practices and cooperative learning practices. A survey of 274 teachers asked about teacher beliefs, curriculum, instruction, assessment, and cooperative learning practices. The study found that teachers and principals report that academically diverse populations receive very little, if any, targeted focus. Both principals and teachers reported beliefs that would appear to under-challenge advanced middle school students. The overwhelming majority of responding educators believed middle schoolers to be more social than academic, to be concrete thinkers, to be motivated primarily by extrinsic situations, and to work best with routine. More alarming is the belief of nearly half the principals and teachers that middle school learners are in a plateau learning period--a theory that supports the idea that basic skills instruction, low level thinking, and small assignments are appropriate. (Contains 39 references.) (DB)

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Academic Diversity in the Middle School: Results of a National Survey of Middle School Administrators and Teachers

Tonya Moon
Carol A. Tomlinson
Carolyn M. Callahan

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September 1995
Research Monograph 95124

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Academic Diversity in the Middle School: Results of a National Survey of Middle School Administrators and Teachers

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ABSTRACT

The Middle School Academic Diversity Study was conducted by The National Research Center on the Gifted and Talented (NRC/GT) to determine the ways in which the current practices described in the middle school literature on meeting the needs of diverse learners are reflected in the policies, beliefs, and instructional practices of administrators and teachers in those settings. Six research questions guided the study: (1) What do middle school practitioners believe about the nature of middle school learners and what do these beliefs foreshadow for academically diverse middle level learners?; (2) To what degree do middle schools appear to engage in developmentally appropriate structures and practices likely to address the wide range of academic readiness, interests, and learning profiles inevitable in middle level populations?; (3) What is the nature of the curriculum and instruction at the middle level and to what degree does it seem appropriately responsive to academic diversity?; (4) How do middle level teachers and administrators understand and enact the concept of differentiating or modifying curriculum and instruction based on learner readiness, interest, and learning profile?; (5) To what degree do middle schools appropriately employ effective alternatives to homogeneous as well single-size-provisions and single-size expectations for all learners in heterogeneous settings?; and (6) To what degree do middle level practitioners seem to understand and use a full range of cooperative strategies and to what apparent effect for academically diverse middle school learners? The administrator survey sample, drawn using stratified random sampling procedures, included a sample of 500 principals. The teacher survey sample, also drawn using random sampling procedures, included a sample of 449 teachers. The principal survey was developed to obtain information on school characteristics, school organization, principal beliefs, curriculum, instruction, and assessment practices, and cooperative learning practices from the viewpoint of an middle school administrator. The teacher survey was developed to obtain information on teacher beliefs, curriculum, instruction, and assessment practices as well as cooperative learning practices. Response rates were 25% (with no follow-up) for the principal survey and 61% (with one follow-up) for the teacher survey. The major finding of the study is that teachers and principals report that academically diverse populations receive very little, if any, targeted focus. Both principals and teachers hold beliefs that would appear to under-challenge advanced middle school students. The overwhelming majority of responding educators believe middle schoolers are more social than academic, concrete thinkers, extrinsically motivated, and work best with routine. More alarming, is the belief of nearly half of the principals and teachers that middle school learners are in a plateau learning period—a theory which supports the idea that basic skills instruction, low level thinking, and small assignments are appropriate.

Academic Diversity in the Middle School: Results of a National Survey of Middle School Administrators and Teachers

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EXECUTIVE SUMMARY

Introduction

While the middle school literature acknowledges diversity of learners with statements such as "Students display a wide range of skills and abilities unique to their developmental patterns" and "Students will range in development from the concrete-manipulatory stage to the ability to deal with abstract concepts" (Wiles & Bondi, 1993, p. 33). However, once a discussion of instructional practice begins, there is not even passing attention to the ways in which these differences should be addressed in assessment, planning, or delivery of instruction. There is some evidence that early notions surrounding "transient" students have been translated into "truths" and serve as the basis for instructional decisions. These "truths" may be unwarranted. For example, Epstein (1974) proposed that the brain undergoes periods of great growth and periods of little to no growth. Epstein and Toepfer (1978) concluded that one of the most acute plateaus in brain growth occurs between the ages of 12 to 14.

Hutson (1985) seriously challenges the research base of these studies, yet the notion still exists among some educators. In the keynote address to the Cleveland Middle School Teachers and Administrators Association in August of 1993, Dr. Lyle Jensen warned ". . . you will also be interested to know that many of our middle grade students experience instances of brain growth periodization or plateaus. Research has proven, for example, that middle school students are not always able to handle abstract reasoning." Wiles and Bondi (1993) state that "Studies show that brain growth in transients slows between the ages of 12 and 14. Learners' cognitive skills should be refined; continued cognitive growth during ages 12 to 14 may not be expected" (p. 34). Although the research base for these beliefs has been retorted, the beliefs still seem to persist. Further, there appears to be little specific guidance in the middle school literature in dealing with differing learner needs. Rather there appears to be an implicit assumption that middle school learners can be taught in classrooms where one-size-fits-all instruction prevails (Tomlinson, 1992). This assumption, if it translates into policy and practice is problematic for a wide range of diverse learners.

Research Questions

The Middle School Academic Diversity study was designed to investigate the ways in which the current middle school literature on meeting the needs of diverse learners is reflected in the policies, beliefs, and instructional practices of administrators and teachers in those settings. More specifically, it addressed six research questions:

1. **Nature of the learner.** What do middle school practitioners believe about the nature of middle school learners? What do those beliefs foreshadow for academically diverse middle level learners?
2. **Developmentally appropriate practice.** To what degree do middle schools appear to engage in developmentally appropriate structures and practices likely to address the wide range of academic readiness, interests, and learning profiles inevitable in middle level populations?
3. **Responsiveness to diversity.** What is the nature of the curriculum and instruction at the middle level and to what degree does it seem appropriately responsive to academic diversity?
4. **Curriculum differentiation.** How do middle level teachers and administrators understand and enact the concept of differentiating or modifying curriculum and instruction based on learner readiness, interest, and learning profile?
5. **Grouping practices.** To what degree do middle schools appropriately employ effective alternatives to homogeneity as well as to single-size-provisions and single-size expectations for all learners in heterogeneous settings?
6. **Cooperative learning.** To what degree do middle level practitioners seem to understand and use a full range of cooperative strategies and to what apparent effect for academically diverse middle school learners?

These six questions were addressed through two nationally distributed surveys to approximately 2,000 middle schools.

Method

Sample

A sample of 2,000 administrators was randomly selected from a national pool of approximately 9,000 public middle schools obtained from Market Data Retrieval (MDR) to represent region of the country, metropolitan status, poverty level, and student race/ethnic diversity. MDR maintains a national database, updated every two weeks, of all public middle schools (defined as grades 5 through 8). The country was divided into four sections as defined by the U.S. Census Bureau. Schools were then stratified according to region of the country. MDR also provided various demographic data (i.e., metropolitan status, poverty level, and student body race/ethnic diversity) for each school. Schools were then stratified on each of the demographic data. In addition, 80 administrators from the pool of administrator respondents were randomly selected to administer the teacher survey in their buildings. Principals were asked to distribute up to 12 surveys to teachers across the four discipline areas (mathematics, science, social studies, language arts). In some cases, less than 12 surveys were distributed. Response rates for the administrators, without follow-up, was 25% (*n* = 500) and for the teachers 61%, with one follow-up (*n* = 449).

Instrumentation

Two surveys, one for administrators and one for teachers, were developed which reflected the policies, beliefs, and practices of middle schools in relation to serving their student population. Practices and conditions investigated included beliefs about how middle school students learn, arrangement of students for learning, cooperative learning, beliefs and practices related to affective needs of middle school students, teacher/administrator training, acknowledging and dealing with student differences, and curriculum, instruction, and assessment practices. The surveys contained statements which were rated on Likert-type scales with anchors such as strongly believe/do not believe at all; reflects my everyday practice/never a part of my classroom, etc. The surveys also asked respondents to rank competing beliefs and practices.

Data Analysis

Standard data cleaning procedures were used to prepare all data for analyses. Descriptive statistics were calculated using the mainframe version of SPSS™ to ascertain the prevalent belief structures, practices, and policies regarding instructional practices as they relate to meeting the needs of diverse learners. Qualitative data analysis procedures included content analyses using each discrete suggestion by the respondents as the unit of analysis resulting in patterns reflecting the most common responses.

Results

The two surveys gathered large amounts of data in an attempt to better understand academic diversity in the middle school environment. Although some insight was gained, many unanswered questions surfaced. A few findings are presented which appear central to gaining knowledge into the beliefs and practices of middle schools as they relate to academic diversity. Findings are presented in terms of positive and negative practices which appear likely to impact the academically diverse student in the middle school grades.

In addressing academic diversity, principals reported interdisciplinary teams being the prevalent organizational structure with common planning time for team teachers. This finding suggests that structures are provided which invite focus on individual students as well as shared expertise in dealing with differing student readiness and learning profiles.

In contrast, several patterns emerged that indicate the lack of responsiveness to student differences. For example, principals and teachers both agreed that middle school learners are more social than academic, concrete thinkers, extrinsically motivated, work best with routine, and are easily discouraged. Over half of the teachers felt their students are weak in basic skills. It is further disturbing that almost half of the principals and teachers still believe that middle school students are in a plateau learning period—a theory which supports basic skills instruction and low level thinking. When asked about specific factors that shape curriculum, both principals and teachers ranked and rated lowest (among 16): student choice of tasks and modifying curriculum instruction to encourage development of varied talents of students.

Principals and teachers also agreed that their middle school students were likely to practice knowledge rather than act on knowledge, and that learning in the classroom was more likely to occur part-to-whole rather than whole-to-part. The overwhelming majority of teachers reported never or almost never using parent volunteers to work with students or developmental age grouping, both strategies likely to facilitate meeting students' academic needs. Almost half of the teachers reported never or almost never using learning labs or advanced co-curricular learning options. In regard to professional preparation, teachers were less certain than were the principals about their ability to vary the use of supplies and materials based on student need.

When asked about planning for the academic needs of particular special student populations, neither principals nor teachers ranked advanced/gifted learners as first; principals ranked academic needs of advanced learners as third (out of four) and teachers ranked them second. Regarding planning for social/affective needs, advanced learners were ranked last (fourth) by principals and third by teachers.

Considered as a powerful instructional strategy, capable of serving both academic and affective needs of virtually all students, cooperative learning was highly subscribed to by both principals and teachers. In particular, principals and teachers believed cooperative learning is: effective in teaching basic skills, effective in teaching advanced/gifted learners, and provides needs for advanced/gifted learners in establishing peer relationships.

In conclusion it appears that middle school principals and teachers are in agreement on key areas related to the differentiation of instruction which would allow for the needs of all students to be appropriately served.

Conclusions

Understanding of policy and practice of the middle school movement as it exists in the "real-life" middle school will assist us in developing new policy and recommendations which can bring the most benefit to diverse learners in the middle school. The research is not intended to negate the middle school movement or the recommended practices. Rather it is the intent to help provide clearer understandings of the beliefs and behaviors of a group of educators with daily decision-making responsibilities for diverse learners. If we can understand and know how these educators implement practice based on their beliefs and understanding, we can be better advocates for diverse learners.

Based on this study's findings, several conclusions seem warranted:

- Ample room exists for improvement in meeting the academic needs of the diverse middle school population.
- Views held by middle school practitioners about the nature and capability of middle school students puts a limitation on their motivations to create and deliver a high level, engaging curricula.
- When middle school practitioners focus on the diverse middle school population, advanced/gifted learners and culturally diverse typically receive less attention than special education or remedial students.
- Teachers attempt to differentiate curriculum for student diversity is at best only tailoring content, process, and products with very little difference for learners.
- Instructional and structural strategies which support curriculum differentiation appear to be underused.
- Teacher knowledge and skills in using cooperative learning strategies appropriately seem to lack that needed to adequately tap the potential of the strategies for doing many things for many kinds of students.

Clearly the study provides a partial picture of the heterogeneous middle school. It does, however, give some insight into current practices and beliefs as they relate to academic diversity. Obviously, further investigation is warranted. Without such documentation of practice, opportunities may be missed to change fundamental practice without challenging beliefs and philosophy of the middle school.

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Academic Diversity in the Middle School: Results of a National Survey of Middle School Administrators and Teachers

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CHAPTER 1: Introduction and Review of the Literature

As the middle school movement has evolved over the past thirty-plus years, so has rhetoric which indirectly or directly impacts the instruction of academically diverse learners in the middle grades. The middle school movement has typically been identified with equity issues, thus making concerns for learners at-risk for school failure a high priority. Among these learners may be those with identified learning handicaps, those from environments which put them at risk of school failure, as well as students who, for a variety of other reasons, simply find academics difficult. The relationship between middle school and students who excel rather than struggle has been less positive. For a long period in the lifespan of the middle school movement, discussion related to high ability students in the middle grades was often emotionally charged and negative. More recently, there appears to be an emergent sense of common ground among educators of the gifted and proponents of the middle school. Nonetheless, little study has specifically focused on the full range of academically diverse learners in the middle school. Such study is imperative if middle schools are to be effective in developing the potential of the wide range of learners who daily pass through their doors. This review of literature will examine several important issues related to middle school philosophy and practice as they may relate to appropriate instruction of academically diverse learners in the middle school. Those issues include: (1) beliefs about the nature and needs of middle school learners, (2) creating developmentally appropriate middle schools, (3) curriculum in the middle level, (4) grouping at the middle level, and (5) use of cooperative learning at the middle level. This literature forms the basis for key questions related to academically diverse learners in the middle grades, which are addressed in this study.

Beliefs About the Nature and Needs of Middle School Learners

There is general agreement among educators that the middle years—typically seen as encompassing ages ten to fourteen—are marked by profound physical, emotional, social and cognitive development, and that learning is impacted by all of the areas in which students are developing as early adolescents (e.g., Manning, 1993; Stevenson, 1992). Less consistent has been the interpretation of precisely what implications the changes have on how we should view middle schoolers. Some middle school writers have concluded that these youngsters are relatively fragile learners. Cautioning that early adolescents are in a plateau period of brain growth, such educators caution that learners in the middle grades are concrete thinkers, ill-equipped to think at high levels or to integrate and apply information, are better suited for review of basic skills begun at earlier levels, and are damaged by an overchallenging curriculum (Brazee; 1983; Epstein, 1974; National Middle School Association, 1992; Strahan, 1985; Toepfer, 1990). Teachers of middle school learners were thus advised at one point to plan small, using small lectures, small assignments, and small homework (Doda, George, & McEwin, 1987). In some places, the watchword of middle schools, not surprisingly, became creating nurturing environments to protect early adolescents rather than creating environments which support and reward high levels of learning (Kanthak, 1995). Being all too familiar with resulting stereotypes, Arnold (1980) laments:

> According to popular wisdom, young adolescents are inherently id-driven, irrational, and argumentative. In mortal combat with adult authority, they have withdrawn into a peer culture which rejects adult values. They are interested primarily in social concerns, not intellectual activities. Therefore, the best schools can do is to place them in a highly structured environment, address their social needs, and hope they will eventually outgrow the "disease" known as early adolescence. (p. 2)

On a far more optimistic note regarding the nature of the middle school learner, Stevenson (1991) describes middle schoolers as interested in the existential, caring deeply about what they know and what they can do, deriving self-esteem from hard work and competence, having a desire to help others, and wanting to impress and please adults important to them. Arnold (1993) counters the popular stereotype of early adolescence as a wasteland by noting that brain development theories which attribute limited mental functioning to middle schoolers have been discredited. Rather, he suggests, these students are at a heightened level of intellectual awareness and can think systematically, hypothetically, managing multiple variables, and with critical self-reflection. "[I]t . . . is simply blasphemous for teachers to believe that young adolescents are intellectually inert. If we adhere to this stereotyped belief, we might as well fold our tents; our capacity genuinely to educate is nil" (p. 5).

The most recent version of *This We Believe*, a National Middle School Association (NMSA) position paper on developmentally responsive middle schools (NMSA, 1995) also reflects a more positive view of the intellectual nature of early adolescents as well, noting, among other characteristics, their curiosity about the world around them and a developing sense of humor.

We might hypothesize that struggling learners received into an environment which perceives middle schoolers as fragile, limited, and in need of protection may find themselves in environments characterized by lowered expectations, resulting in diminution rather than enhancement of student potential, even though the opposite may have been a well-intentioned goal. Our best indicators are that struggling learners flourish in learning environments where they are presented with problems, issues, dilemmas, and unknowns which require them to think and to apply and extend knowledge (Means, Chelemer, & Knapp, 1991).

By the same token it appears evident that students who are advanced in their learning capacity in one or more areas and who enter an environment where the perception is that high level thought is unlikely, if not impossible, will find their academic growth on hold. In such places, intellectuals become eggheads, mediocrity is the standard, rote learning and standardized tests reign, and it is not acceptable to be smart (Arnold, 1993).

Creating Developmentally Appropriate Middle Schools

Much has been written about what constitutes a developmentally appropriate middle school. It seems obvious that those who hold more optimistic views of middle level learners would define "developmentally appropriate" in a different way than those who hold more limited views. Below is a synthesis of *some* benchmark principles of a developmentally appropriate middle level school, drawn from writings of respected professional groups and individuals whose professional focus is the middle school (Carnegie Council on Adolescent Development, 1989; Manning, 1993; National Association of Secondary School Principals, 1985; NMSA, 1992, 1995). These principles are spotlighted because of their potential importance in effective instruction of academically diverse middle schoolers. A developmentally appropriate middle school should:

- understand and address the developmental physical, emotional, social and academic needs of early adolescents in a way which takes into account the interconnectedness of these areas,
- recognize and address a full range of intellectual and developmental needs of early adolescents,
- use a range of organizational arrangements in response to the wide variety of student needs at the middle level (e.g., school within a school, block scheduling, multi-age grouping, developmental age grouping, alternate schedules, flexible scheduling, de-emphasizing homogeneous grouping) so that students do not have to violate who they are in order to participate fully and successfully in school,
- use a wide range of instructional strategies in response to the range of learning needs within a classroom (e.g., simulations, cooperative learning, experiments, independent study, community-based learning),
- incorporate a broad exploratory program so that students may expand and develop their individual interests,
- build environments which support excellence and achievement rather than intellectual conformity and mediocrity,
- encourage continuous progress for middle school students so that each learner may progress at a preferred pace and in a preferred learning style,
- chart student progress in ways which emphasize individual growth rather than comparison to peers,
- employ a variety of mechanisms which encourage teachers to work closely together and closely with students to ensure that students feel known, understood, and supported (e.g., teacher advisory, interdisciplinary teaming, interdisciplinary planning, schools within schools), and
- develop staff who are caring, enthusiastic, strong in their subject areas and in instruction, models of intellectual growth, accessible, specially prepared to teach early adolescents, skilled in differentiating instruction, and have high expectations.

Middle schools with a focus on student achievement will also:

- recognize and respond to the fact that students arrive at school from varied experiences, with varied backgrounds, and learn at varied rates,
- provide for the varying achievement needs of the full range of students,
- celebrate achievement,
- attach no stigma to achievement, and
- carefully monitor student achievement and adjust instruction based on these data (Center for High Achieving Schools, 1995).

Clearly, these basic tenets are structured to provide optimum learning opportunities for any learner regardless of academic achievement or potential. Particularly, application of the principles addressing the "full range of intellectual and developmental needs," "building environments which support excellence," "encouraging continuous progress so that each learner may progress at a preferred pace," and "develop staff who are . . . skilled in differentiating instruction," would be likely to result in educational programs for the academic needs of both academically able and struggling learners.

Curriculum at the Middle Level

Once again, beliefs about the nature and needs of middle school students likely shape the nature of middle school curricula. More limiting views of the learning capacity of middle school students may be a contributing factor in the middle school movement's on-going struggle to define what constitutes appropriate curricula for early adolescents (Tomlinson, 1992, 1994). Whatever the reason, curriculum in middle school still often looks like what Americans studied at the same age generations earlier (George & Shewey, 1994), or is shallow and cute (Arnold, 1991). After more than 30 years, an essential question remains unanswered by the literature of middle school: What should the curriculum in middle school be like (Arnold, 1991; Beane, 1990)?

A number of proposals for departing from a drill and skill approach to curriculum have been proposed in the literature of middle school. Beane (1990) suggests basing middle school curricula on themes which reflect both the concerns of early adolescents and those of the world in which they live. In his ideal school, students would explore themes such as identity, transition, justice, caring, conflict resolution, independence, and so on. He believes that such explorations would allow for individual differences via pursuit of varied subtopics and at varied levels of depth. In such settings, he suggests, labels such as gifted or learning disabled would become meaningless because they are products of a subject-based curriculum and adult values.

Stevenson (1992) affirms the importance of middle schoolers becoming skilled in reading, writing, listening, speaking and mathematics—but not as an end in themselves. He sees curricula as balancing an opportunity for students to explore their own interests in ways which are relevant and alive to the learner, while simultaneously calling upon the core skills noted above. He sees interdisciplinary studies as a way to aid students in exploration, and strikes a strong note for active and often real-world-based study. Among options he proposes toward these ends are: exploratory studies, theme-based studies, minicourses, inquiry-based learning, service-based learning, apprenticeships, experiential education, simulations, field studies, and competitions. Stevenson acknowledges the differences in student talent and development and the need for teachers to be responsive to those differences. He cautions also that it is easy to slide into a mode of teaching in which all students are expected to be doing or learning the same things in the same ways over the same span of time. Textbook-based instruction feeds this tendency, he suggests, and teachers need to step away from teacher-and-text-centered approaches to teaching toward ones more appropriate for highly diverse middle school populations.

> Students are developmentally unequal. Therefore, educators must ensure that, for substantial portions of their school lives, students will be able to seek their success along a variety of paths. Teachers' expectations of students must reflect an understanding of student differences. Some portions of curriculum must accommodate individual choices. Ways of presenting knowledge must complement disparities in youngsters' talents or dispositions for revealing their knowledge. (p. 122)

Arnold (1993) draws upon the work of Stevenson and others to suggest that appropriate middle school curricula would be empowering—that is, be based on a positive view of young adolescents, enable them systematically to increase control over their own learning, make sense of themselves and their world, and contribute to the well-being of others. He deals with academic diversity (interest, readiness, and learning profile) with a description of one curriculum which allowed students to work at any of six levels of involvement on an experience-based study—from novice or apprentice levels to expert or master levels—the latter being something like Eagle Scout level in Boy Scouts. Such an approach, he posits, allows both for collaboration and individually appropriate choices.

The most recent version of *This We Believe* (NMSA, 1995) describes a developmentally responsive curriculum as one which is challenging (creates new interests, opens new doors of learning, stretches students, and is highly individualized in response to student differences in developmental diversity), integrative (helping students make sense of their world and their own life experiences, reflective, problem-based), and exploratory (allowing students to discover and extend their own talents, abilities, interests, and preferences). In developmentally appropriate settings, students will use a range of thinking skills to address interesting problems and emphasize generating rather than absorbing knowledge. Instruction, the document suggests, should involve a wide range of teaching and learning approaches in response to the varied developmental and learning traits of early adolescents.

Grouping at the Middle Level

The literature of middle school largely eschews homogeneous grouping patterns (e.g., Carnegie Task Force on Education of Young Adolescents, 1989; NMSA, 1989), based particularly on threats to self-esteem and learning of students placed in low track classes (Manning, 1993). Nonetheless, middle level teachers continue to believe that ability grouping assists student learning for both struggling and advanced learners (Spear, 1994).

Those who write strongly against the pervasive use of ability grouping have done so with such a degree of success that it may be questionable whether educators have also taken note of consistent, but less redundant, cautions in the same literature that elimination of pervasive homogeneity does not equate to acceptance of the assumption that all students have the same learning needs and should thus be dealt with as virtual clones of one another in the classroom. George (1988), for example, suggests that ability-grouped classes be used only in subjects such as reading and math where reducing heterogeneity seems especially important. He also notes that middle schoolers in the top ten percent of learners may learn more in homogeneously grouped settings. Epstein and Mac Iver (1990) recommend limiting homogeneous grouping in middle schools to one-half of the school day or less. Other alternatives offered to rigid grouping in the recent literature of middle school include: multi-age grouping, individualized instruction, regrouping by subject area, grouping and regrouping within teams, within class groupings, cooperative learning, use of technology to support special learning needs, and compacting (Erb, 1994; George & Grebring, 1995; Manning, 1993). Such strategies are promoted as equalizing opportunities of all students for high quality learning, encouraging interaction among academically and culturally diverse students, yet avoiding labeling of students (Erb, 1994; Manning, 1993).

The most recent version of *This We Believe* (NMSA, 1995) suggests that in place of academic tracking, schools use enrichment programs, cooperative learning, independent study, varied lengths of time, and varied group sizes to address learning differences. Noting that the task of addressing the academic/developmental diversity in middle school classes is daunting, the authors suggest that appropriately adapting curriculum and instruction to meet varied student needs will require considerable collaboration among regular and special education teachers, other school personnel, and the learners themselves.

Use of Cooperative Learning at the Middle Level

Cooperative learning is championed by many middle level educators as an effective mechanism for dealing with student differences in lieu of ability grouping (Carnegie Council on Adolescent Development, 1989; Toepfer, 1992). Specifically, cooperative learning is said to result in higher student motivation, greater acceptance of differences in peers, more positive perceptions about the intentions of others, and a decrease in dependency on the teacher (Wood, 1992). Proponents of cooperative learning suggest that both the tutor and tutee in such settings benefit (Wood, 1992). Whereas experts in gifted education question the efficacy of pervasive use of cooperative learning with advanced learners (Robinson, 1990), middle school experts believe that, "High achievers deepen their understanding by explaining material to lower achievers" (Carnegie Council on Adolescent Development, 1990, p. 16). Caution exists in the writing of middle school experts that positive impacts of cooperative learning can be diminished if teachers lack knowledge of the full range of cooperative strategies available to them and overuse one particular strategy (Erb, 1992; Wood, 1992). Rather, teachers at the middle level should vary forms of group work based on the purpose of the task, and "with students at different times clustered randomly, by ability, by interest, or by other criteria" (Wood, p. 25).

Key Questions Related to Academically Diverse Learners in the Middle Grades

A number of essential questions about academically diverse learners in the middle grades are raised by issues such as those discussed above. These questions focus on both the interpretation of the recommendations found in the middle school literature and the degree to which belief structures formed by these interpretations are reflected in practice. Little has been done in the way of research to begin answering those questions. The current study is one step in the direction of probing an understanding of questions such as:

- What do middle school practitioners believe about the nature of middle school learners and what do those beliefs foreshadow for academically diverse middle level learners?
- To what degree do middle schools appear to engage in developmentally appropriate structures and practices likely to address the wide range of academic readiness, interests, and learning profiles inevitable in middle level populations?
- What is the nature of the curriculum and instruction at the middle level and to what degree does it seem appropriately responsive to academic diversity?
- How do middle level teachers and administrators understand and enact the concept of differentiating or modifying curriculum and instruction based on learner readiness, interest, and learning profile?
- To what degree do middle schools appropriately employ effective alternatives to homogeneity as well as to single-size-provisions and single-size expectations for all learners in heterogeneous settings?
- To what degree do middle level practitioners seem to understand and use a full range of cooperative strategies and to what apparent effect for academically diverse middle school learners?

CHAPTER 2: Procedures

This chapter provides a detailed description of the methods and procedures used in both the Middle School Administrator and Middle School Teacher Surveys to assess ways in which middle school staff regard and respond to issues regarding the needs of academically diverse learners, including the academically talented. The chapter begins with a description of the development of both surveys, followed by sampling plans and mailing procedures. The chapter concludes with descriptions of the statistical analyses used to answer the research questions.

Study Research Questions

The main focus of this study was to ascertain beliefs and practices of middle school principals and teachers as they relate to meeting the needs of academically diverse students. A secondary focus was to address the relationship between what principals believe occurs relative to instruction and curriculum and what teachers say they are actually doing in the classroom. Specifically, the study was intended to address the following research questions:

1. What do middle school practitioners believe about the nature of middle school learners and what do those beliefs foreshadow for academically diverse middle level learners?
2. To what degree do middle schools appear to engage in developmentally appropriate structures and practices likely to address the wide range of academic readiness, interests, and learning profiles inevitable in middle level populations?
3. What is the nature of the curriculum and instruction at the middle level and to what degree does it seem appropriately responsive to academic diversity?
4. How do middle level teachers and administrators understand and enact the concept of differentiating or modifying curriculum and instruction based on learner readiness, interest, and learning profile?
5. To what degree do middle schools appropriately employ effective alternatives to homogeneity as well as to single-size-provisions and single-size expectations for all learners in heterogeneous settings?
6. To what degree do middle level practitioners seem to understand and use a full range of cooperative strategies and to what apparent effect for academically diverse middle school learners?

Questionnaire Development

The study was designed to assess ways practitioners, both administrators and teachers, translate the philosophy of middle school as articulated by the NMSA and related publications into belief systems, policies, and practices which affect instruction for academically diverse middle schoolers. As previously noted, both the Middle School Administrator and Middle School Teacher Surveys were developed to investigate ways in which middle school staff respond to academically diverse learners, including (a) organization of students for instruction, (b) factors which influence decision-making regarding academically diverse learners on the part of both administrators and teachers, (c) curriculum, instruction, and student assessment practices which may impact academically diverse learners, and (d) cooperative learning.

Middle School Administrator Survey Development

Thorough reviews of the literatures from middle school education and gifted education were undertaken to determine those principles, beliefs, policies, and practices which appear typical of middle schools and which are designed to guide the education of middle school students. These principles were then translated into survey questions pertaining to (a) Principal Background and School Characteristics, (b) Organization of Students, (c) Principal Beliefs, (d) Curriculum, Instructional, and Assessment Practices, and (e) Cooperative Learning.

The initial administrator survey was administered (in November, 1994) to a small sample (*n* = 10) of Virginia middle school principals whose schools represented a variety of school socio-economic levels and student racial/ethnic concentrations. Feedback on the questionnaire solicited through telephone interviews with selected principals and invited responses written on the returned surveys (*n* = 6) resulted in several revisions being made to clarify particular terms used in the survey.

Final Questionnaire

The final questionnaire resulting from the revisions contained 16 pages of questions that solicited information on (a) the background of the responding principal and characteristics of their school, (b) organization of students, (c) principal beliefs, (d) curriculum, instructional, and assessment practices, and (e) cooperative learning.

A variety of question formats were used to gather the information listed above. Some questions used a four-point Likert-type scale (e.g., strongly disagree to strongly agree), other questions used a six-point graduated frequency scale (e.g., never use to use daily), and some questions used a two-point scale (e.g., yes or no). For each question related to decision-making practices, two formats were used: (1) a four-point rating scale ranging from "Not Important" to "Very Important," and (2) a ranking format based on the number of factors provided for the particular decision being made. This ranking format was used to generate variation among individual factors. We felt principals would rate most factors as important or very important; however, at some point in the decision-making process, factors become weighted by their relative importance, hence we asked principals to rank the relative importance of each factor. Detailed descriptions follow for the sections listed above. Two open-ended questions concluded the survey.

Principal Background and School Characteristics

Ten questions were asked about principal sex, ethnicity, years of experience as principal, highest academic degree earned, certification and endorsements held, and professional activities (i.e., journals regularly read and conferences attended related specifically to middle school). Eight questions sought information on the schools, including grade span of the middle school, the approximate number of students in grades 5 through 8, and the percentage of racially/ethnically diverse students.

School Organization

Questions pertaining to the school organization directed respondents to indicate the most common organization of students in the school, how students were placed on interdisciplinary teams, and whether specialists (i.e., special education, gifted education, remedial) met regularly with teams.

Principal Beliefs

Questions in this section of the survey were designed to ascertain the principal's beliefs about factors such as assessment and evaluation of student readiness and progress, development of appropriate middle school curriculum and challenging exploratory classes, meeting the learning needs of academically diverse students (i.e., advanced/gifted, remedial/at-risk, special education), meeting the affective needs of middle school learners in general, and establishing a positive middle school environment. Also included in this section were belief statements about middle school students and the preparedness of the teaching staff in the middle school. The belief statements were derived from guiding principles of the NMSA.

Curriculum, Instructional, and Assessment Practices

In this section of the survey, questions were asked about the use of (a) exploratory classes, (b) particular instructional strategies used to address students' varied learning needs, (c) the influence on instruction of particular types of student assessment, and (d) the influence of particular factors on decision-making processes relative to curriculum, instruction, and assessment.

Cooperative Learning

Five questions specifically addressed cooperative learning. Questions ranged from the amount of time cooperative learning was used by teachers and how cooperative groups were formed to the varieties of cooperative learning employed.

Open-Ended Question

The last page of the survey presented two parallel scenarios to the principals. The first scenario described parents of a learning disabled student inquiring about the principal's school and what that middle school offered for the student. The second scenario described parents of an advanced/gifted student seeking the same information relative to their middle schooler. Principals were asked in each case to respond as if they were actually speaking to the parents.

Middle School Teacher Survey Development

The initial teacher survey was administered in February, 1995, to a sample of Virginia middle school teachers in the buildings that had participated in the field trial of the principals' survey. Six packets were assembled, each containing 12 surveys and cover letters for the teachers. In addition, a cover letter was addressed to each principal asking him/her to randomly distribute the surveys across language arts, mathematics, social studies, and science teachers (3 each) in the school. Feedback on the questionnaire through written responses provided by teachers on the returned surveys (*n* = 35) again resulted in several revisions being made to clarify particular terms used in the survey.

Final Questionnaire

The final questionnaire that emerged as a result of the revisions contained 12 pages of questions that solicited information on (a) the background of the teacher, (b) curriculum, instructional, and assessment practices, (c) teacher beliefs, and (d) cooperative learning. Again, a variety of question formats were used to gather the information listed above. Some questions used a four-point Likert-type scale (e.g., strongly disagree to strongly agree), other questions used a six-point graduated frequency scale (e.g., never use to use daily).

The same question formats for the decision-making questions were used that were used with the principal decision-making questions. Each of the sections is described below.

Teacher Background

The first section of the survey contained questions related to the teacher's sex, racial/ethnic status, highest academic degree earned, type of teaching certification/endorsement held, discipline(s) and grade levels primarily responsible for teaching, full-time teaching experience at the elementary, middle, and secondary levels, and professional activities (i.e., journals regularly read and conferences attended related specifically to middle school).

Teacher Beliefs

Questions in this section of the survey included teacher beliefs about (a) middle school students, (b) preparedness for teaching middle school students, (c) reasons for possible lack of learning options provided in classrooms to address academically diverse learners, and (d) appropriateness of particular special classes for academically diverse learners.

Curriculum, Instructional, and Assessment Practices

In this section of the survey, questions were asked about the use of (a) exploratory classes, (b) particular instructional strategies used to address students' varied readiness levels and learning needs, (c) influence on instruction of particular types of student assessment, and (d) decision-making processes relative to curriculum, instruction and assessment.

Cooperative Learning

Questions concerning cooperative learning ranged from the amount of time spent using cooperative learning and type of strategies used in the classroom to how learning groups were formed.

Open-Ended Question

The last page of the teacher survey contained an open-ended item asking teachers to describe, in detail, ways in which their instruction was planned and carried out so that it was developmentally appropriate for varied student readiness levels, interests, learning styles, and cultural profiles.

Sampling Plan

The sampling plan was developed based upon data obtained from Market Data Retrieval (MDR). MDR maintains a current database, updated every two weeks, on district, school, and principal information for all schools across the country. MDR provided, in ASCII file format, the following information on all public middle schools, defined as grades 5 through 8: school name, principal name, school address, school telephone number, poverty level of school, community type school resided in, and racial/ethnic make-up of student body.

Once the information was obtained, we classified schools by region of the country based upon the state in which the school was located. Schools were then stratified according to poverty level, and community type.

Definition of Stratification Variables

MDR provided the following definitions that were used in defining the study's stratification variables:

Poverty Level (Orshansky Indicator): defined as the ratio of the number of children below the poverty line to the number of all children in a specific district. Data are based on the 1980 census. The poverty line is determined by family income, size of family, sex of head of family household and farm vs. non-farm locality. The following breakdowns were used:

Class A: 0 - 4.9% poverty
Class B: 5 - 11.9% poverty
Class C: 12 - 24.9% poverty
Class D: 25% poverty

Community Type: defined by school zip codes and Metropolitan Statistical Area (MSA) definitions developed by the U.S. Census Bureau (1982):

Urban—those zip codes that comprise the central city that gives its name to the MSA.
Suburban—those zip codes that fall within the geographic confines of the MSA (usually based upon county boundaries), but fall outside the central city.
Rural—those zip codes that do not fall within the boundaries of a MSA.

Region: defined by the U.S. Census Bureau (1982):

Northeast—CT, MA, ME, NH, NJ, NY, PA, RI, VT
North Central—IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI
South—AL, AR, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV
West—AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

Minority Groups: In addition to the stratification variables, information was also obtained on minorities in each school to ensure their representation in our research. The four racial/ethnic groups were defined as follows:

African Americans—A person having origins in any of the Black groups of Africa.
Asian Americans—A person having origins in any of the peoples of the Far East, the Indian subcontinent, the Pacific Islands, or Southeast Asia.
Hispanic Americans—A person of Central American, Cuban, Mexican, Puerto Rican, South American or other Spanish culture or origin, regardless of race.
Native Americans—A person having origins in any of the original peoples of North America and maintaining cultural identification.

MDR maintains data on the student racial/ethnic composition of schools and we used these data to define high concentrations of the groups. By high concentrations we used the following definitions:

African American—25% or more of student body
Asian American—5% or more of student body

Hispanic American—16% or more of student body
Native American—15% or more of student body

The schools which did not fall into any of the above categories were classified as White.

Public Middle School Sample

Given these stratification definitions, we drew a stratified random sample of middle schools across the country representing the 48 cells of the sampling design (4 regions X 3 community types X 4 poverty levels)

Given the data supplied by MDR, we drew a proportionally stratified random sample of 2,000 middle schools in order for each cell to be represented in proportion to the population breakdowns. Because of rounding error in proportional random sampling, our final sample size was 1,988 middle schools. Population breakdowns for community type, poverty level, and region of the country are given in Table 2.1.

Because we used six Virginia middle schools to pilot test the Middle School Administrator Survey and Middle School Teacher Survey, we removed their names from the list of middle schools eligible to be selected to participate in our study. The final breakdown of the 1,988 public middle schools selected are shown in Table 2.2.

Table 2.1

Population Breakdown of Public Middle Schools by Region, Community Type, and Poverty Level

	COMMUNITY TYPE												
	Urban				Suburban				Rural				
Region	A*	B	C	D	A	B	C	D	A	B	C	D	Total
South	8 (<1)**	95 (1)	432 (5)	354 (4)	64 (<1)	270 (3)	299 (3)	70 (<1)	30 (<1)	237 (3)	775 (9)	688 (8)	3,322 (39)
North Central	18 (<1)	83 (1)	148 (2)	213 (2)	236 (2)	171 (2)	70 (<1)	70 (<1)	119 (1)	468 (5)	565 (7)	106 (1)	2,267 (26)
North East	27 (<1)	50 (<1)	82 (1)	230 (2)	306 (4)	157 (2)	59 (<1)	20 (<1)	193 (2)	224 (2)	170 (2)	29 (<1)	1,547 (18)
West	12 (<1)	61 (<1)	206 (2)	148 (2)	54 (<1)	166 (2)	138 (2)	45 (<1)	14 (<1)	149 (2)	302 (4)	196 (2)	1,491 (17)
Total	65 (<1)	289 (3)	868 (10)	945 (10)	660 (8)	764 (7)	566 (7)	205 (2)	356 (4)	1,078 (12)	1,812 (22)	1,019 (12)	8,627***

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.
** ( ) indicates % of population.
*** 135 schools were missing either community type, poverty level, or both. Total population size = 8,762.

Table 2.2

Breakdown of Sampled Public Middle Schools by Region, Community Type, and Poverty Level

	COMMUNITY TYPE												
	Urban				Suburban				Rural				
Region	A*	B	C	D	A	B	C	D	A	B	C	D	Total
South	2 (<1)**	22 (1)	99 (5)	81 (4)	16 (<1)	62 (3)	68 (3)	16 (4)	6 (<1)	54 (3)	177 (9)	15 (8)	760 (39)
North Central	4 (<1)	19 (1)	34 (2)	49 (2)	54 (2)	39 (2)	16 (<1)	16 (<1)	27 (1)	107 (5)	129 (7)	24 (1)	518 (26)
North East	6 (<1)	11 (<1)	19 (1)	52 (2)	70 (4)	36 (2)	13 (<1)	5 (<1)	44 (2)	51 (2)	39 (2)	7 (<1)	353 (18)
West	3 (<1)	14 (<1)	47 (2)	34 (2)	12 ( )	38 (2)	31 (2)	10 (<1)	3 (<1)	34 (2)	69 (4)	45 (2)	340 (17)
Total	15 (<1)	66 (3)	199 (10)	216 (10)	152 (8)	175 (7)	128 (7)	47 (2)	80 (4)	246 (12)	414 (22)	233 (12)	1,971***

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.
** ( ) indicates % of sample.
*** 17 schools were missing community type or poverty level. Total sampled size = 1,988.

Mailing Procedures for Middle School Administrator Survey

Due to the length of the survey, the large number of surveys being mailed, and an expected response rate of less than 50%, we decided to use bulk mailing procedures. In mid-December, 1994 packets were assembled, bundled according to U.S. Postal Regulations, and mailed to each sampled middle school. Each packet included a cover letter, a survey coded with the identification of the school, and an addressed, stamped return envelope. Because of budget limitations, we were unable to send follow-up materials to the sampled schools.

One thousand nine hundred eighty-eight (*n* = 1,988) administrator surveys were mailed, and 500 were returned (as of May 1, 1995) for an overall return rate of 25%. According to Krejcie and Morgan (1970), based on a population of approximately 9,000 middle schools, 368 returned surveys were needed for a representative sample.

Middle School Administrator Survey Analysis

Standard data cleaning procedures were used to prepare data from the administrator surveys for statistical analyses. In addition, each survey was coded for anonymity. Descriptive statistics were calculated for all questions included in the questionnaire based on the total principal sample.

A content analysis was conducted on responses given by principals to the survey's two open-ended questions, with each discrete suggestion made by a respondent being the unit of analysis. Most-common-response patterns were derived, as well as a range of comments, from those appearing to be open, receptive, and hospitable to academically diverse learners, to those appearing to be more closed and unreceptive. Two researchers separately conducted the content analyses of the principal responses, compared patterns discerned in the analysis and, agreed upon redundant patterns to enhance credibility of findings. Findings presented are based upon the redundant themes or patterns.

Sampling and Mailing Procedures for Middle School Teacher Survey

At the end of February, 1995, a random sample of 80 middle schools was selected to participate in the teacher component of the research from those middle schools whose principals had responded to the Middle School Administrator Survey. Packets were assembled, including a letter to the principal asking him/her to randomly distribute the enclosed surveys to teachers in the building, 12 surveys, each with a cover letter to the teacher, and a stamped, addressed return envelope. Principals were asked to distribute as many of the surveys as possible using the following breakdown: 4 surveys each to language arts, mathematics, social studies, and science teachers. Assembled packets for the 80 middle schools were mailed using first-class postage.

One week later, a follow-up letter was sent to the 80 principals with a stamped return postcard, asking them to indicate the number of surveys they had distributed in their building. Of the 80 packets sent, three principals responded on the postcard that they would not be participating in the second half of the survey because of school self-studies. For the remaining 77 buildings, 63 principals (82%) responded indicating a total of 817 Middle School Teacher Surveys distributed. Four hundred forty-nine (*n* = 449) surveys were returned (as of June 1, 1995) for a response rate of 61%. It is not known whether there were principals who did not respond to the postcard but did distribute the surveys. Therefore, the reported return rate for teachers was based only on those principals who reported distributing the teacher surveys.

Middle School Teacher Survey Analysis

Standard data cleaning procedures were used to prepare data from the teacher surveys for statistical analyses. In addition, each survey was coded for anonymity.

In addition, a separate data file was created containing the 63 principals and the 449 teachers who had responded to parallel questions on both questionnaires. Data were matched by an identification code. Question means for the teacher surveys were computed on items that were included on both the administrator and teacher surveys. The teacher item means and the principals' responses were then correlated.

As with the open-ended questions on the administrator survey, researchers conducted a content analysis of responses given by teachers to the survey's open-ended question, with each discrete suggestion made by a respondent being the unit of analysis. Most-common-response patterns were derived. In addition, a representative range of comments from respondents was determined, from those appearing to demonstrate considerable understanding of areas probed to those appearing to reflect little understanding. Two researchers served as peer debriefers throughout the content analysis phase, seeking to ensure consistency of method and credibility of patterns and interpretation.

CHAPTER 3: Middle School Administrator Information

The Middle School Administrator Survey contained 16 pages of questions which provided information on (a) principal background and school characteristics, (b) school organization, (c) principal beliefs, (d) curriculum, instructional, and assessment practices, and (e) cooperative learning. This chapter presents descriptive information on principals and their schools who completed and returned the survey by May 1, 1995. The subsequent chapter presents results based on the Middle School Teacher Survey.

Principal Background and School Characteristics

Principals were asked about their gender, ethnicity, highest academic degree earned, and type of certification/endorsement held. Principals' responses to each of these questions are described in turn; in addition, breakdowns by community type, poverty level, and region of the country are also given for participating schools.

Table 3.1 portrays various background information obtained from responding principals. Of the 500 principals, 73% (*n* = 364) were males, 26% (*n* = 136) were females; 86% (*n* = 428) were White with the remaining 14% distributed across African Americans (*n* = 35), Asian Americans (*n* = 4), Hispanic Americans (*n* = 13), and Native Americans (*n* = 16); 66% (*n* = 327) held a Doctorate; followed by 12% (*n* = 58) with hours beyond a Master's degree, 9% (*n* = 44) with a Master's degree only, and two (*n* = 2) with a Bachelor's degree; 46% (*n* = 229) held Secondary Principal Certification, 39% (*n* = 196) reported holding both Elementary and Secondary Principal Certification, and 13% (*n* = 63) held Elementary Principal Certification. In addition, 48% (*n* = 238) of the principals reported holding a middle school endorsement.

Table 3.1 also portrays information by community type as provided by respondents. As shown, 53% (*n* = 263) of the principals were located in rural areas, followed by 21% (*n* = 120) in suburban areas, and 19% (*n* = 94) in urban areas. Also shown are poverty level breakdowns, 38% (*n* = 186) of the schools were in communities classified as 5-10.9% poverty, followed by 27% (*n* = 134) with 11-24.9% poverty, 18% (*n* = 90) with less than 4.9% poverty, and 12% (*n* = 69) with 25% or more poverty. Thirty-two percent (32%; *n* = 199) of the principals were from the South, 29% (*n* = 146) from the North Central region of the country, 15% (*n* = 77) from the Northeast, and 14% (*n* = 70) from the West. Overall, the final sample of responses was a representative cross-section of the population of middle schools obtained from the MDR data.

Table 3.2 provides a breakdown of the amount of time assigned as principal for each of five samples—gender, race, community type, poverty level and region. Overall, the majority of respondents (*n* = 461) were employed between 75-100% of the time as the principal in the sampled middle school.

Table 3.1

Principal Race/Ethnicity by Gender, Academic Degree, Certification Endorsement, Community Type, Poverty Level, and Region of Country

	Principal Race/Ethnicity				
	White *n* = 428	African American *n* = 4	Asian American *n* = 4	Hispanic *n* = 13	Native American *n* = 16
Principal Gender					
Female	111	12	2	4	2
Male	317	23	2	8	14
Missing				1	
Academic Degree					
Bachelor's	2	0	0	0	0
Master's	36	5	0	2	1
Master's +	52	4	0	0	2
Doctorate	278	23	4	11	11
Missing	60	30			2
Principal Certification					
Elementary	56	4	0	1	2
Secondary	192	18	1	9	9
Elementary & Secondary	174	11	3	3	5
Missing	6	2			
Middle School Endorsement	194	25	2	5	12
Community Type					
Urban	74	12	1	5	2
Suburban	107	6	1	3	3
Rural	233	14	1	5	10
Missing	14	3	1		1
Community Poverty*					
A	59	17	1	7	4
B	162	9	1	5	9
C	128	4	0	0	2
D	64	2	1	1	1
Missing	15	3	1		
Region					
North Central	134	8	0	0	4
North East	71	3	0	2	1
South	161	20	0	6	9
West	56	3	3	5	2
Missing	6	1	1		

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.

Table 3.2

Percentage of Time Spent as Principal in the Middle School

	(Percentage of Time)				
	0-25%	26-50%	51-75%	76-100%	Missing
Principal Gender					
Female	5	3	1	122	1
Male	3	10	10	339	2
Missing				35	4
Principal Race					
African American	1	1	1	31	1
Asian American	0	0	0	4	0
White	7	12	10	376	0
Hispanic American	0	0	0	13	2
Native American	0	0	0	16	3
Missing				56	0
Community Type					
Urban	3	0	1	90	1
Suburban	2	5	2	110	2
Rural	3	8	8	243	3
Missing				53	
Community Poverty*					
A	0	1	0	68	1
B	1	3	5	125	0
C	2	8	4	170	4
D	5	1	2	80	2
Missing				53	
Region					
North Central	3	10	4	128	1
North East	0	1	1	74	1
South	4	2	4	186	3
West	1	0	2	66	1
Missing				42	

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.

Principals were asked how many state or national conferences/meetings specifically related to middle school they attended during the 1993-94 school year. As can be seen in Table 3.3, the majority of principals (*n* = 249) reported attending two to five meetings. Table 3.3 also provides a breakdown across gender, race, academic degree, certification, community type, poverty level, and region of the country.

Most principals read at least one issue each year of the following journals: *Middle School Journal*, *Principal*, *Research in Middle Level Education*, *Educational Leadership*, *Phi Delta Kappan*, and *School Administrator*. *Middle School Journal* was the most commonly read journal, with 88% of the principals reporting reading at least one issue per year (see Table 3.4).

Table 3.3

Number of State or National Meetings or Conferences Attended Specifically Related to Middle School

	Number of Meetings/Conferences				
	0	1	2-5	>5	Missing
Principal Gender					
Female	15	31	71	10	5
Male	54	107	178	20	7
Principal Race					
African American	6	4	21	3	1
Asian American	0	1	3	0	0
White	61	128	205	24	0
Hispanic American	2	1	8	2	0
Native American	0	4	11	1	0
Principal Degree					
Bachelor's	0	1	1	0	0
Master's	6	11	23	3	1
Master's +	41	93	168	19	8
Doctorate	12	14	24	5	3
Principal Certification					
Elementary	16	16	26	4	1
Secondary	26	61	121	17	5
Elementary & Secondary	26	59	100	9	2
Community Type					
Urban	13	21	53	3	5
Suburban	17	37	46	17	4
Rural	39	74	142	7	3
Community Poverty*					
A	7	21	30	9	2
B	19	37	66	10	2
C	27	46	104	6	5
D	14	30	42	2	2
Region					
North Central	25	36	77	6	2
North East	10	17	40	9	1
South	30	61	90	10	8
West	4	23	38	4	1

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.

Table 3.4

Journals Read Regularly by Principals

	Number of Issues				
Journal	**0**	**1-4**	**5-8**	**>8**	**Missing**
Middle School Journal	44	196	245	NA	15
Principal	165	150	117	NA	68
Research in Middle Level Education	120	307	NA	NA	73
Educational Leadership	50	173	245	NA	32
Phi Delta Kappan	133	146	79	101	41
School Administrator	208	143	53	32	64
Other	14	28	47	60	351

Table 3.5 shows the breakdown of the participating middle schools' grade spans across region of the country, community type, and poverty level. Across all variables, the most common organization was schools which housed grades 6 through 8. This reflects our sampling plan in that middle schools, for our purposes, were defined as schools which housed grades 5 through 8, or some combination of those grades.

Table 3.5

Breakdown of Middle School Grade Spans by Region, Community Type, and Poverty Level

	Grade Spans			
	5-8	**6-8**	**Other**	**Missing**
Region				
North Central	33	102	10	1
North East	17	50	8	2
South	16	168	8	7
West	4	59	1	6
Community Type				
Urban	2	82	7	4
Suburban	12	97	8	4
Rural	55	190	12	8
Community Poverty*				
A	12	51	4	2
B	22	100	7	5
C	22	149	11	6
D	14	69	4	3

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.

The average number of students per grade level is given in Table 3.6. The average number of students in grades 6, 7, and 8 was about 215 (median 200) and for grade 5 was 117 (median 110).

Of the principals responding to the organizational structure of their middle schools, 61% reported using interdisciplinary teams, and 29% reported using departmental divisions. Eight percent (8%) reported using some other type of organizational structure (see Table 3.7).

Interestingly, when asked about eight characteristics of middle schools emphasized by middle school advocates, the majority of principals (52%) reported that the creation of schools within schools and assigning students to the same advisory teachers throughout their middle school experience had never been used in their schools. Cooperative learning, heterogeneous classes, flexible scheduling, parent volunteers, curriculum based on critical thinking skills, and common planning periods for interdisciplinary teams were reported as currently in use by the majority of principals. It should be noted that responses to this questions are based on only 116 principals (see Table 3.8).

Table 3.6

Mean and Median of Grade Levels in Responding Middle Schools

Grade Level	*M*	*SD*	Median
5	117	74	110
6	213	129	200
7	218	130	200
8	213	126	200

Table 3.7

Organizational Structure of Middle Schools

Organization	*n*	%
Interdisciplinary teams	304	61
Departmental (subject area) divisions	146	29
Other	41	8
Missing	9	2

Table 3.8

Characteristics of Middle Schools by Principals

	Never Used	Used Past 4 Years	In Use	Plan to Use
Classes organized for cooperative learning	6 (5)*	22 (19)	61 (53)	3 (3)
Students of different ability levels assigned to same academic class	6 (5)	16 (14)	74 (64)	3 (3)
Flexible scheduling	12 (10)	16 (14)	62 (53)	15 (13)
Parents recruited to work as volunteers in school	9 (8)	25 (22)	60 (52)	4 (3)
Creation of schools within schools	52 (45)	10 (9)	35 (30)	8 (7)
Curriculum revisions to emphasize critical thinking skills	10 (9)	18 (16)	51 (44)	25 (22)
Common planning period for members of the same team	7 (6)	24 (21)	65 (56)	2 (2)
Students assigned to the same advisory teachers for all years in middle school	80 (69)	5 (4)	9 (8)	14 (12)

n = 116; * ( ) indicates % of respondents.

Student Organization

Heterogeneous grouping was clearly the most widely practiced grouping strategy (see Table 3.9). Dominance of lecture and practice as chief mode of instruction within grouping mode was reported by 29% of the principals. An almost equal number of principals reported use of heterogeneous classes with cooperative learning as chief mode of instruction (26%). These two grouping arrangements were followed by use of heterogeneous classes with curricular differentiation for students of differing readiness and/or interest levels (18%). The use of homogeneous classes was reported by less than 10% of principals; flexible scheduling was reported by only 8%; and less than 1% reported use of multi-age classes with students of similar readiness levels together across grades.

Table 3.10 displays principals' responses about distribution of special needs students across teams. Over half of the principals indicated that academically diverse students (i.e., special education, remedial/at-risk, and advanced/gifted) were placed equally on all teams. Eighteen percent (18%) reported that special education students were placed on one or two teams, 14% reported that advanced/gifted students were placed on one or two teams, and 8% reported that remedial/at-risk students were placed only on one or two teams. Approximately 20% of the schools reported not using teams.

Table 3.9

Organization of Middle School Students

	n	%
Heterogeneous classes with same general curricula for most students and with lecture and practice as chief mode of instruction	143	29
Heterogeneous classes with same general curricula for most students and with cooperative learning as chief mode of instruction	132	26
Heterogeneous classes with curricula differentiated for students of differing readiness levels and/or interest	91	18
Homogeneous classes based on student achievement in that subject	11	2
Homogeneous classes with student achievement in math and/or language determining placement in multiple classes	45	9
Flexible grouping and/or regrouping of students across classes	42	8
Multi-age classes with students of similar readiness levels together across grades	2	<1
Other	13	3
Missing	21	4

Table 3.10

Placement of Students on Interdisciplinary Teams

	n	%
Special education students are placed equally on all teams	291	58
Special education students are placed on one or two teams	91	18
We do not use teams	108	22
Missing	10	2
At-risk students are placed on all teams	354	71
At-risk students are placed on one or two teams	39	8
We do not use teams	99	20
Missing	8	2
Advanced/gifted students are placed equally on all teams	320	64
Advanced/gifted students are placed on one or two teams	70	14
We do not use teams	99	20
Missing	11	2

Principal Beliefs

As can be seen from Table 3.11, principals, in general, believe that middle school students:

- are more interested in social than academic pursuits (78%),
- are concrete thinkers (73%),
- are not weak in basic skills (59%),
- are eager to discuss ambiguous ideas (58%),
- work best with routine (87%),
- are not high level critical thinkers (67%),
- are extrinsically motivated to learn (76%),
- are not over-stressed by emphasis on academics (76%),
- are easily discouraged and lose self-confidence (61%), and
- are able to work independently (72%).

Table 3.11

Principals' Beliefs About Middle School Students

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know	Missing
Students are more interested in social than academic pursuits	5 (1)*	93 (19)	224 (45)	167 (33)	1 (<1)	10 (2)
Students are concrete thinkers	9 (2)	100 (22)	294 (59)	70 (14)	7 (1)	10 (2)
Students are weak in basic skills	35 (7)	260 (52)	157 (31)	39 (8)	1 (<1)	8 (2)
Students are eager to discuss ambiguous ideas	38 (8)	147 (29)	243 (49)	47 (9)	15 (3)	10 (2)
Students work best with routine	6 (1)	46 (9)	263 (53)	168 (34)	3 (1)	14 (3)
Students are high level critical thinkers	37 (7)	301 (60)	136 (27)	11 (2)	2 (<1)	13 (3)
Students are extrinsically motivated to learn (e.g., work for awards)	11 (2)	90 (18)	303 (61)	74 (15)	5 (1)	17 (3)
Students are over-stressed by emphasis on academics	52 (10)	332 (66)	74 (15)	16 (3)	7 (1)	19 (4)
Students are in a plateau learning period	30 (6)	217 (43)	177 (35)	37 (7)	27 (5)	12 (2)
Students are easily discouraged and lose self-confidence	26 (5)	151 (30)	232 (46)	77 (15)	5 (1)	9 (2)
Students are able to work independently	4 (1)	127 (25)	329 (66)	27 (5)	3 (1)	10 (2)

* ( ) indicates % of respondents.

Principals split about evenly on whether or not middle school students are or are not in a learning plateau period, 42% vs. 49%.

When asked if adequate guidance was provided by the National Middle School Association the majority of principals believed that a moderate to a large amount of guidance was provided for:

- establishing a positive middle school environment (76%),
- developing appropriate middle school curricula (71%),
- meeting needs of special education learners (54%),
- meeting needs of remedial/at-risk learners (63%),
- meeting needs of advanced/gifted learners (54%),
- developing challenging exploratory classes (56%),
- evaluation of student progress (65%),
- assessment of student readiness (47%), and
- meeting affective needs of middle school learners (63%).

Only 47% of the principals reported that a moderate to large amount of guidance is provided by the NMSA on assessment of student readiness (see Table 3.12). Further, approximately 20% of respondents to each item either did not know or did not answer the questions. This may indicate a lack of awareness.

When asked to judge the preparation of their teachers, principals reported that teachers were adequately or very well prepared for (see Table 3.13):

- teaching their academic subjects (96%),
- teaching middle school students (86%),
- assessing student growth and achievement (85%),
- using varied materials (84%),
- assessing student readiness (71%),
- managing multiple activities (69%),
- teaching remedial/at-risk students (59%),
- teaching advanced/gifted learners (57%), and
- designing multiple learning activities to give a lesson based on student readiness (52%).

Principals also reported that teachers were either not prepared at all or had some ability, but were not adequately prepared for teaching special education students (51%) and establishing a multicultural classroom (51%).

Table 3.12

Principals' Belief About National Middle School Association Guidance

	None	A Minimal Amount	A Moderate Amount	A Large Amount	Don't Know	Missing
Establishing a positive middle school environment	6 (1)*	24 (5)	180 (36)	199 (40)	57 (11)	34 (7)
Developing appropriate middle school curricula	4 (1)	44 (9)	190 (38)	164 (33)	59 (12)	39 (8)
Meeting needs of special education learners	12 (2)	107 (21)	212 (42)	55 (11)	78 (16)	36 (7)
Meeting needs of advanced/gifted learners	7 (1)	109 (22)	219 (44)	51 (10)	74 (15)	40 (8)
Meeting needs of remedial/at-risk learners	7 (1)	81 (16)	228 (46)	84 (17)	66 (13)	34 (7)
Developing challenging exploratory classes	14 (3)	87 (17)	201 (40)	80 (16)	75 (15)	43 (9)
Evaluation of student progress	9 (2)	59 (12)	228 (46)	93 (19)	75 (15)	36 (7)
Assessment of student readiness	16 (3)	112 (22)	188 (38)	44 (9)	100 (20)	40 (8)
Meeting affective needs of middle school learners	21 (4)	54 (11)	181 (36)	138 (28)	62 (12)	44 (9)

* ( ) indicates % of respondents.

Table 3.13

Principals' Beliefs About Teaching Staff Preparations

	Not at All	Some Ability	Adequately Prepared	Very Well Prepared	Don't Know	Missing
Teaching middle school students	3 (1)*	58 (12)	184 (37)	232 (46)	0 (0)	23 (5)
Teaching special education students in the regular classroom	31 (6)	226 (45)	181 (36)	42 (8)	0 (0)	20 (4)
Teaching remedial students in the regular classroom	11 (2)	173 (35)	226 (45)	68 (14)	1 (<1)	21 (4)
Teaching advanced/gifted students in the regular classroom	19 (4)	171 (34)	238 (48)	47 (9)	6 (1)	19 (4)
Establishing a multicultural classroom	61 (12)	193 (39)	150 (30)	42 (8)	34 (7)	20 (4)
Teaching their academic subject(s)	1 (<1)	2 (<1)	78 (16)	399 (80)	1 (<1)	19 (4)
Managing multiple activities within the individual classroom	14 (3)	118 (24)	253 (51)	91 (18)	3 (1)	21 (4)
Designing multiple learning activities to give a lesson based on student readiness	30 (6)	189 (38)	210 (42)	48 (10)	6 (1)	17 (3)
Use of varied materials (textbooks, supplementary materials, etc.)	1 (<1)	57 (11)	227 (45)	197 (39)	0 (0)	18 (4)
Assessing student readiness	11 (2)	110 (22)	254 (50)	105 (21)	3 (<1)	17 (3)
Assessing student growth and achievement	7 (1)	51 (10)	273 (55)	150 (30)	1 (<1)	18 (4)

* ( ) indicates % of respondents.

Principals were also asked about the degree to which they believed special classes had merit for special education, remedial/at-risk, and advanced/gifted students. Seventy-three percent (73%) believed full-time classes had merit for special education students, 65% judged full-time classes appropriate for advanced/gifted students, and 60% believed they were appropriate for remedial/at-risk students. Eighty-seven percent (87%) of principals reported believing part-time classes had merit for special education students, 86% believed they were appropriate for remedial/at-risk students, and 83% believed they had merit for advanced/gifted students. Ninety-one percent (91%) also believed that supplemental classes for assistance with complex subject matter for remedial/at-risk students had merit (see Table 3.14).

Table 3.14

Merit of Special Classes in Middle School by Principal Sample

	Little	Some	Considerable	A Great Deal	Don't Know	Missing
Full-time classes for remedial/at-risk students	169 (34)*	164 (33)	67 (13)	72 (14)	3 (1)	25 (5)
Part-time classes for remedial/at-risk students	44 (9)	183 (37)	163 (33)	82 (16)	1 (<1)	27 (5)
Full-time classes for special education students	110 (22)	191 (38)	68 (14)	104 (21)	0 (0)	27 (5)
Part-time classes for special education students	38 (8)	181 (36)	161 (32)	94 (19)	1 (<1)	25 (5)
Full-time classes for advanced/gifted students	142 (28)	185 (37)	77 (15)	66 (13)	2 (<1)	28 (6)
Part-time classes for advanced/gifted students	59 (12)	188 (38)	134 (27)	91 (18)	2 (<1)	26 (5)
Supplemental classes for remedial/at-risk students for assistance with complex subject matter	11 (2)	129 (26)	182 (36)	145 (29)	4 (1)	29 (6)

* ( ) indicates % of respondents.

Curriculum, Instruction, and Assessment Practices

Eight decision-making questions focusing on curriculum, instruction, and assessment practices were rated and ranked by principals. Principals were asked to consider each set of factors twice relating to a specific decision regarding curriculum, instructional, and assessment practices. First, they were asked to RATE the importance of each factor in a given set in making decisions regarding curriculum, instruction, and assessment on a scale of 0 to 3. Then they were asked to RANK each factor relative to the set of factors given regarding curriculum, instruction, and assessment practices. Rankings within a set of items were determined by the rank ordering the means. It could be that the differences between rankings in any set were minimal.

Table 3.15 displays the ratings and rankings of factors influencing principals' decisions regarding the philosophy and goals of their middle schools. All factors received a mean rating above 2, indicating principals believed all the factors were important. When principals were asked to rank the factors, the top two rankings were students learning to learn (#1) and students mastering basic skills (#2); the bottom two rankings were discovery of student talent (#6) and advancement of student talent (#7).

Table 3.15

Means and Rank Ordering of Factors Which Influence Decisions Regarding Philosophy and Goals of Middle Schools for Principals

Factor	*M*	*SD*	Rank
Students learning to learn	2.63	0.59	1
Students searching for self-understanding	2.14	0.70	5
Students mastering basic skills	2.74	0.50	2
Students understanding principles and concepts of core disciplines	2.50	0.61	4
Critical thinking and problem solving by students	2.68	0.51	3
Discovery of student talent	2.07	0.68	6
Advancement of existing student talent	2.18	0.69	7

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 7 with 1 representing "Most Important" and 7 representing "Least Important."

When asked to consider 16 factors related to decisions regarding curriculum (see Table 3.16), principals rated and ranked providing a core curriculum and instruction beneficial to all students as the most important factor. Teaching thinking skills was rated and ranked second followed by extension of learning beyond texts. The factor that ranked least important by principals was modifying curriculum and instruction to address cultural differences, which received a rating below 2, indicating it was only somewhat important. Modifying curriculum and instruction to encourage development of varied talents in students was ranked 15th, although it received a mean rating of 2.27, indicating that it was important. Students working on tasks of their own choosing was ranked 14th and received a mean rating of less than 2, indicating principals believed the factor was less than somewhat important.

The low mean ratings (at or below somewhat important) of the following factors are indicative that student similarities and differences are relatively unimportant to principals in decisions regarding curriculum:

- emphasis on student similarities (*M* = 1.94, rank 13),
- emphasis on student differences (*M* = 2.04, rank 11),
- students working at their own pace within classes (*M* = 1.93, rank 12), and
- modifying curriculum and instruction to accommodate gender differences (*M* = 1.73, rank 10).

Table 3.17 shows ratings and rankings of an additional set of factors which traditionally shape curriculum. The principals ranked local standards/benchmarks (*M* = 2.31), key concepts and principles of the core disciplines (*M* = 2.43), and teacher-selected themes (*M* = 2.10) as the top three factors, respectively. The bottom three rankings were complex open-ended problems (*M* = 1.97), student questions/choices (*M* = 1.72), and textbooks (*M* = 1.56), respectively.

Table 3.16

Mean Ratings and Rank Ordering of Factors Which Influence Decisions Regarding Curriculum in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Emphasis on student differences	2.04	0.81	11
Emphasis on student similarities	1.94	0.76	13
Teaching thinking skills	2.62	0.56	2
Teacher as competent provider of knowledge	2.40	0.71	6
Students as architects of knowledge	2.10	0.77	9
Interdisciplinary curricula	2.34	0.74	5
Students working at their own pace within classes	1.93	0.76	12
Students working on tasks of their own choosing	1.59	0.78	14
Extension of learning beyond texts	2.54	0.66	3
Extension of learning beyond the classroom	2.40	0.72	7
Continuous progress between classes/grades	2.33	0.76	8
Providing a core curriculum and instruction beneficial to all students	2.70	0.55	1
Modifying curriculum and instruction based on individual learning differences	2.51	0.65	4
Modifying curriculum and instruction to encourage development of varied talents in students	2.27	0.68	15
Modifying curriculum and instruction to accommodate gender differences	1.73	0.85	10
Modifying curriculum and instruction to address cultural differences	1.82	0.83	16

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 16 with 1 representing "Most Important" and 16 representing "Least Important."

Table 3.17

Means and Rank Ordering of Factors Which Influence Decisions Regarding Shaping Curriculum in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Textbooks	1.56	0.92	9
Local standards/benchmarks	2.31	0.76	1
Competency tests	1.99	0.83	6
Teacher selected themes	2.10	0.76	3
Student questions/choices	1.72	0.80	8
Key concepts and principles of the core disciplines	2.43	0.67	2
Complex open-ended problems	1.97	0.82	7
State testing program	2.09	0.89	4
State or national curriculum standards	2.07	0.84	5

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 9 with 1 representing "Most Important" and 9 representing "Least Important."

Principals were also asked to rank and rate factors which influence decisions regarding instructional practices in their middle school (Table 3.18). All factors received a mean rating above 2 (important) except the following: Guidance from National Middle School Association materials or conferences (*M* = 1.53; rank 16), National-level mandates and initiatives (*M* = 1.72, rank 15), and Your own training and experience (*M* = 1.97, rank 14). The number one ranked factor was A place for students to be secure and accepted (*M* = 2.77) followed by Ensuring student mastery of core skills and knowledge (*M* = 2.67). Parent input received a low ranking of only 13 (*M* = 2.09).

Regarding decisions about selection of texts and other instructional materials (see Table 3.19), principals reported, Meeting varied levels of student readiness (*M* = 2.63, rank 1), Having a readability suited to the general student population (*M* = 2.52, rank 2) and Demonstrating depth and complexity of information in the world (*M* = 2.30, rank 3) as the top three factors. The bottom three factors were Highlighting roles of various ethnic groups (*M* = 1.89, rank 7), State assessment program (*M* = 1.89, rank 8), and State recommendations (*M* = 1.73, rank 9).

Table 3.18

Means and Rank Ordering of Factors Which Influence Decisions Regarding Instructional Practices in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Providing concrete learning experiences for students	2.59	0.59	4
Having students grapple with complex ideas	2.24	0.73	9
Encouraging student self-efficacy through hard work	2.42	0.69	7
Encouraging student self-esteem through acceptance by staff	2.46	0.70	6
Ensuring student mastery of core skills and knowledge	2.67	0.58	2
Adapting instruction for varied developmental levels of students	2.56	0.63	5
A place for students to be secure and accepted	2.77	0.48	1
A place for intellectual growth	2.69	0.53	3
A place for consolidation of basic skills	2.43	0.62	8
Based on your own training and experience	1.97	0.77	14
Formal discussion with faculty	2.36	0.67	11
Guidance for National Middle School Association materials or conferences	1.53	0.86	16
Parent input	2.09	0.74	13
District-level mandates and initiatives	2.31	0.73	10
State-level mandates and initiatives	2.21	0.79	12
National-level mandates and initiatives	1.72	0.84	15

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 16 with 1 representing "Most Important" and 16 representing "Least Important."

Table 3.19

Means and Rank Ordering of Factors Which Influence Decisions Regarding Selection of Texts and Other Instructional Materials in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Meeting varied levels of student readiness	2.63	0.55	1
Highlighting roles of various ethnic groups	1.89	0.86	7
Having a readability suited to the general student population	2.52	0.63	2
Demonstrating depth and complexity of information in the world	2.30	0.67	3
Showing both males and females as active participants in the world	2.22	0.78	6
Providing varied perspectives on issues and events	2.41	0.65	4
State recommendations	1.73	0.98	9
State assessment programs	1.89	0.92	8
Local assessment programs	2.09	0.90	5

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 9 with 1 representing "Most Important" and 9 representing "Least Important."

Table 3.20 displays the means and rank ordering of factors which influence decisions regarding implementing academic programs. Only Teacher Expertise and Student Test Scores received a mean rating above 2 (ranked 1 and 2, respectively). Expertise of counselors and parents, student preference, and student grades received average ratings indicating they were less than somewhat important.

Table 3.20

Means and Rank Ordering of Factors Which Influence Decisions Regarding Implementing Academic Programs in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Teacher Expertise	2.70	0.51	1
Counselor Expertise	1.84	0.95	5
Parent Expertise	1.56	0.85	6
Student Preference	1.85	0.76	4
Student Grades	1.91	0.75	3
Student Test Scores	2.19	0.76	2

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 6 with 1 representing "Most Important" and 6 representing "Least Important."

Principals were asked about influences regarding the content and structure of exploratory classes. Teacher preference (*M* = 2.52, rank 1) and Student preference (*M* = 2.43, rank 2) were the top two factors. Counselor preference and parent preference received a mean rating below 2, indicating somewhat important, as did student grades and student test scores (see Table 3.21). Teacher focus remains number one for both exploratory and academic programs. However, in comparison to decisions regarding academic programs were student test scores and grades rank second and third; student test scores and grades dropped to the bottom in consideration for exploratory program decision-making.

Principals were also asked about use of exploratory classes in their middle schools (see Table 3.22). Sixty-seven percent (67%) reported that more than half of exploratory classes were used to provide the same enrichment choices for all students. The majority of principals also reported less than half of exploratory classes were used to provide extra help or advanced learning options for students (i.e., special education, remedial, advanced/gifted, or culturally diverse).

When asked about decisions regarding instructional planning for the academic needs of students, principals ranked remedial/at-risk learners as the most important group for consideration (*M* = 2.57), followed by special education learners (*M* = 2.53), and advanced/gifted learners (*M* = 2.35) with culturally diverse students ranked last (*M* = 2.12). However, as can be seen from the means, all groups were reported to be important in making decisions for instructional planning (see Table 3.23).

Table 3.21

Means and Rank Ordering of Factors Which Influence Decisions Regarding the Implementation of Exploratory Programs in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Teacher Preference	2.52	0.67	1
Counselor Preference	1.65	0.90	4
Parent Preference	1.91	0.81	3
Student Preference	2.43	0.74	2
Student Grades	1.51	0.90	5
Student Test Scores	1.51	0.97	6

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 6 with 1 representing "Most Important" and 6 representing "Least Important."

Table 3.22

Use of Exploratory Classes Reported by Principal Sample

	0-25%	26-50%	51-75%	76-100%	Missing
Provide same enrichment choices for all learners	89 (18)*	48 (10)	91 (18)	245 (49)	27 (5)
Provide extra help and support for special education learners	231 (46)	76 (15)	68 (14)	89 (18)	36 (7)
Provide extra help and support for remedial/at-risk learners	229 (46)	91 (18)	68 (14)	77 (15)	35 (7)
Provide advanced learning options for advanced/gifted learners	232 (46)	91 (18)	73 (15)	71 (14)	33 (7)
Provide support for culturally diverse students	297 (59)	61 (12)	40 (8)	64 (13)	38 (8)

* ( ) indicates % of respondents.

Table 3.23

Means and Rank Ordering of Factors Which Influence Decisions Regarding Instructional Planning for the Academic Needs of Students in Middle Schools by Principals

Factor	*M*	*SD*	Rank
Culturally diverse learners	2.12	0.86	4
Remedial/at-risk learners	2.57	0.61	1
Advanced/gifted learners	2.35	0.69	3
Special education learners	2.53	0.61	2

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 4 with 1 representing "Most Important" and 4 representing "Least Important."

Principals again reported remedial/at-risk learners as the most important student group to consider when making decisions regarding instructional planning for social/affective needs (see Table 3.24). In contrast to the ranking given to culturally diverse students' learning needs in decision-making relative to academic planning (4th), the needs of culturally diverse learners were ranked second in consideration in planning in the social-affective realm. However, this means *ratings* of considerations of their needs in both cases is below that of special education learners (2.17 versus 2.41) remedial/at-risk learners, and gifted learners. Advanced/gifted students were ranked fourth (last) when considering social/affective needs. However, it should be noted that all four groups were given a mean rating above 2, indicating that they were important when considering instructional planning for social/affective needs.

Table 3.24

Means and Rank Ordering of Factors Which Influence Decisions Regarding Instructional Planning for the Social/Affective Needs of Students in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Culturally diverse learners	2.17	0.86	2
Remedial/at-risk learners	2.47	0.65	1
Advanced/gifted learners	2.21	0.76	4
Special education learners	2.46	0.62	3

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 4 with 1 representing "Most Important" and 4 representing "Least Important."

Asked about factors influencing decisions regarding student grading, principals reported that the most important factor, both in rating and ranking, was Student effort (*M* = 2.57) followed by Individual improvement or progress over last grading period (*M* = 2.42). Achievement relative to the rest of class received the lowest mean rating (*M* = 1.62) and was also ranked last (see Table 3.25).

Principals reported the two most common organizational patterns of interdisciplinary teams were: (1) having teachers plan in teams, but teach content separately by subject using common themes (45%) and (2) having teachers plan together in teams, but teach content separately by subject (32%). Only 4% of the principals reported teachers planning together, teaching in the same room, and sharing responsibility for teaching the same content. On this particular question, 15% of the principals reported not using interdisciplinary teams at all (see Table 3.26). That number was as high as 20% on other questions regarding teaming in the survey.

Table 3.25

Means and Rank Ordering of Factors Which Influence Decisions Regarding Student Grading in Middle Schools for Principals

Factor	*M*	*SD*	Rank
Achievement relative to the rest of class	1.62	0.91	5
Individual improvement or progress over last grading period	2.42	0.71	2
Student effort	2.57	0.61	1
Class participation	2.25	0.63	3
Completing homework assignments	2.18	0.71	4

Note. Means based on a scale of 0 to 3 with 0 representing "Not Important" to 3 representing "Very Important." Ranking based on a scale of 1 to 5 with 1 representing "Most Important" and 5 representing "Least Important."

Table 3.26

Use of Interdisciplinary Teams

	n	%
We do not use interdisciplinary teaming	75	15
Teachers plan together in teams, but teach content separately and by subject	159	32
Teachers plan together in teams and teach content separately and by subject, but use common themes across subjects	225	45
Teachers plan together and often teach together in the same room, sharing responsibility for teaching the same content	20	4
Missing	21	4

The average daily time reported by principals allotted for individual teacher planning was 51 minutes (*SD* = 46 min.) and for team planning was 42 minutes (*SD* = 16 min.).

Of the principals indicating that interdisciplinary teams were used in their schools, 50% reported that a special education resource teacher met with the team weekly or daily. However, only 20% reported that gifted resource teachers met daily or weekly and only 29% reported that remediation specialists met that often. The 19% of principals responding not applicable to both the gifted education resource teacher and the remediation specialist categories suggest that in about one-fifth of middle schools these resource personnel are not available (see Table 3.27).

Table 3.27

Use of Specialists With Interdisciplinary Teams

	Never	Few Times Per Year	Monthly	Weekly	Daily	Don't Know	NA	Missing
Special education resource teacher	13 (3)*	52 (10)	60 (12)	149 (30)	101 (20)	1 (<1)	3 (<1)	121 (24)
Gifted education resource teacher	50 (10)	69 (14)	55 (11)	75 (15)	24 (5)	5 (1)	96 (19)	126 (25)
Remediation specialist	22 (4)	56 (11)	50 (10)	99 (20)	46 (9)	1 (<1)	96 (19)	130 (26)

* ( ) indicates % of respondents.

When questioned about characteristics they looked for during formal classroom observations, principals reported that all 11 factors were generally looked for (see Table 3.28). More than 50% of the principals reported observing at least 50% of the time for active learning, solid instruction in basic skills, differentiated instruction which attends to needs of remedial/at-risk students, tight classroom management, adherence to district or state learning standards, adherence to a school adopted instructional model, participation or engagement of students by gender, participation or engagement of students across ethnic groups, and participation or engagement of students of all learning levels. Less than half of the principals reported looking more than 50% of the time they observed for differentiated lessons which attend to the needs of remedial/at-risk students or advanced/gifted students or the use of cooperative learning. The majority of principals reported that solid instruction in basic skills, participation or engagement of students of all learning levels, and active learning by students were the three top characteristics under consideration when they observed classrooms.

Table 3.28

Characteristics Looked for During Principal Classroom Observations

	0-25%	26-50%	51-75%	76-100%	Missing
Solid instruction in basic skills	26 (5)*	76 (15)	165 (33)	207 (41)	26 (5)
Active learning by students	15 (3)	41 (8)	112 (22)	311 (62)	21 (4)
Differentiated lessons which attend to the needs of remedial/at-risk students	73 (15)	108 (22)	178 (36)	118 (24)	23 (5)
Differentiated lessons which attend to the needs of advanced/gifted students	95 (19)	133 (27)	157 (31)	90 (18)	25 (5)
Use of cooperative learning	86 (17)	165 (33)	139 (28)	81 (16)	29 (6)
Tight classroom management	72 (14)	94 (19)	140 (28)	167 (33)	27 (5)
Adherence to district or state learning standards	101 (20)	96 (19)	134 (27)	144 (29)	25 (5)
Adherence to a school-adopted instructional model	126 (25)	94 (19)	123 (25)	128 (26)	29 (6)
Participation or engagement of students by males and females	130 (26)	92 (18)	99 (20)	153 (31)	26 (5)
Participation or engagement of students across all ethnic groups	139 (28)	73 (15)	94 (19)	170 (34)	24 (5)
Participation or engagement of students of all learning levels	50 (10)	45 (9)	128 (26)	251 (50)	26 (5)

* ( ) indicates % of respondents.

Table 3.29 displays principals' responses when asked about strategies used by teachers in their school to meet varied developmental or readiness levels of students. Parent volunteers to work with students, learning labs, and developmental age grouping were reportedly used only a few times a year or less. Peer tutoring and before/after school assistance were the two strategies most frequently used to address varied developmental levels of students. These were the only two strategies reportedly used weekly or daily by a majority of the principals.

When asked about specific instructional strategies used by teachers to address student diversity, there were no clearly established patterns in responses. However, as can be seen from Table 3.30, the only three strategies which were widely used at least weekly were: breaking work down into small parts, varied modes of expressing learning, and computer programs which focus on skills remediation.

Table 3.29

Strategies Used to Meet Varied Developmental or Readiness Levels of Students Reported by Principals

	Never	A Few Times a Year	Monthly	Weekly	Daily	Don't Know	Missing
Parent volunteers to work with special education learners	127 125	210 (42)*	54 (11)	54 (11)	20 (4)	4 (1)	31 (6)
Parent volunteers to work with remedial learners	100 (20)	221 (44)	45 (9)	71 (14)	25 (5)	2 (<1)	36 (7)
Parent volunteers to work with gifted learners	129 (26)	211 (42)	63 (13)	46 (9)	9 (2)	4 (1)	38 (8)
Peer tutoring	19 (4)	79 (16)	82 (16)	154 (31)	128 (26)	5 (1)	33 (7)
Before and after school assistance	12 (2)	31 (6)	24 (5)	128 (26)	269 (54)	0 (0)	36 (7)
Learning labs	132 (26)	70 (14)	52 (10)	87 (17)	104 (21)	23 (5)	32 (6)
Advanced co-curricular activities	75 (15)	102 (20)	66 (13)	113 (23)	97 (19)	13 (3)	34 (7)
Developmental age grouping	288 (58)	90 (18)	25 (5)	19 (4)	28 (6)	13 (3)	37 (7)
Grading based on individual growth	115 (23)	103 (21)	54 (11)	49 (10)	121 (24)	28 (6)	30 (6)

*( ) indicates % of respondents.

Table 3.30

Principals' Reported Use of Instructional Strategies to Address Student Diversity

	Never	A Few Times a Year	Monthly	Once a Week	2-3 Times a Week	Daily	Don't Know	Missing
Pre-assessment of student knowledge/ understanding	8 (2)*	135 (27)	125 (25)	72 (14)	51 (10)	57 (11)	17 (3)	35 (7)
Tape recorded content	87 (17)	186 (37)	79 (16)	35 (7)	20 (4)	14 (3)	49 (10)	30 (6)
Peer tutors	13 (3)	83 (17)	91 (18)	73 (15)	92 (18)	104 (21)	16 (3)	28 (6)
Compacting	69 (14)	103 (21)	64 (13)	45 (9)	32 (6)	17 (3)	128 (26)	42 (8)
Learning contracts	32 (6)	170 (34)	108 (22)	55 (11)	32 (6)	32 (6)	35 (7)	36 (7)
Tiered assignments	49 (10)	98 (20)	77 (15)	58 (12)	37 (7)	35 (7)	105 (21)	41 (8)
Advanced organizers	43 (9)	62 (12)	70 (14)	50 (10)	65 (13)	75 (15)	92 (18)	43 (9)
Breaking work down into small parts	3 (1)	30 (6)	51 (10)	72 (14)	108 (22)	179 (36)	22 (4)	35 (7)
Varied modes of expressing learning	5 (1)	32 (6)	55 (11)	84 (17)	98 (20)	145 (29)	37 (7)	44 (9)
Independent study	14 (3)	85 (17)	93 (19)	77 (15)	80 (16)	98 (20)	20 (4)	33 (7)
Interest groups	27 (5)	96 (19)	113 (23)	85 (17)	62 (12)	43 (9)	43 (9)	31 (6)
Learning centers	47 (9)	98 (20)	95 (19)	61 (12)	66 (13)	68 (14)	31 (6)	34 (7)
Computer programs which focus on skills remediation	28 (6)	65 (13)	75 (15)	94 (19)	72 (14)	116 (23)	20 (4)	30 (6)
Advanced computer programs	54 (11)	69 (14)	84 (17)	76 (15)	69 (14)	93 (19)	22 (4)	33 (7)
Flexible pacing	63 (13)	85 (17)	65 (13)	60 (12)	50 (10)	74 (15)	69 (14)	34 (7)
Graduated rubrics	78 (16)	70 (14)	57 (11)	42 (8)	49 (10)	25 (5)	121 (24)	58 (12)
Mentorships for advanced students	161 (32)	102 (20)	50 (10)	33 (7)	21 (4)	24 (5)	61 (12)	48 (10)
Mentorships for remedial/at-risk students	130 (26)	85 (17)	61 (12)	57 (11)	33 (7)	48 (10)	47 (9)	39 (8)
Student-generated criteria for tasks and products	91 (18)	122 (240)	82 (16)	43 (9)	21 (4)	18 (4)	71 (14)	52 (10)

* ( ) indicates % of respondents.

Table 3.31 indicates a wide range of assessment strategies used in instruction. Portfolios or other alternative assessments and individual goal setting have some influence on instruction, but less than standard report cards or literacy/competency tests.

Forty-three percent (43%) of principals reported pushing individual students to their performance limit was the best indicator of student academic success, followed by application of complex thinking skills (30%) and mastery of basic skills (20%) (see Table 3.32).

Principals also generally reported that there were programs in place in their middle schools which recognized high academic achievement by all students (see Table 3.33). Not surprisingly, special recognition programs were generally for middle school learners in general, rather than being specifically aimed at culturally diverse students or female or male students. Sixty-three percent (63%) reported having a special recognition program in place for advanced/gifted students.

Table 3.31

Influence of Student Assessment on Instruction by Principals

	None	Some	Considerable	A Great Deal	Don't Know	Missing
Portfolios or other alternative assessments	118 (24)*	207 (41)	96 (19)	41 (9)	7 (1)	31 (6)
Standard report cards	10 (2)	40 (8)	150 (30)	261 (52)	2 (<1)	37 (7)
Literacy/ competency tests	35 (7)	148 (30)	182 (36)	103 (21)	4 (1)	28 (6)
Individual goal setting	88 (18)	234 (47)	111 (22)	35 (7)	4 (1)	28 (6)
Norm referenced tests	53 (11)	157 (31)	168 (34)	95 (19)	0 (0)	27 (5)

* ( ) indicates % of respondents.

Table 3.32

Indicators of Student Academic Success by Principals

	n	%
Mastery of basic skills	100	20
Application of complex thinking skills	151	30
Pushing individual students to their performance limit	216	43
Missing	33	7

Table 3.33

Availability of Special Programs for Recognizing High Academic Achievement by Principals

	Yes	No
Middle school learners in general	449 (90)*	29 (6)
Advanced/gifted middle school learners	317 (63)	158 (32)
Culturally diverse middle school learners	129 (26)	344 (69)
Female students	150 (30)	326 (65)
Male students	145 (29)	328 (66)
Students talented in the arts	342 (69)	136 (27)

* ( ) indicates % of respondents.

When asked about descriptors of students' most typical learning situations, principals reported, in general (see Table 3.34):

- learning occurred part-to-whole (71%) rather than whole-to-part (19%),
- students worked in groups (55%) rather than alone (37%),
- students practiced knowledge (61%) rather than acted on knowledge (28%), and
- there was classroom variety (53%) rather than classroom routine (38%).

Table 3.34

Situations Most Typical of Student Learning for Principals

	n	%
Whole-to-part learning	97	19
Part-to-whole learning	355	71
Missing	48	10
Students work alone	186	37
Students work in groups	273	55
Missing	41	8
Students acting on knowledge	142	28
Students practicing knowledge	303	61
Missing	55	11
Classroom variety	267	53
Classroom routine	189	38
Missing	44	9

The majority of principals reported lack of comfort in knowing how to develop multiple learning options (63%) is influential or very influential in deferring the use of varied learning options by teachers. The majority of principals also reported as not a factor or somewhat influential the following:

- lack of appropriate instructional materials (66%),
- lack of planning time (62%),
- inadequate blocks of time for multiple activities (60%), and
- teachers do not see a need to do so (58%).

Principals were about evenly split on whether or not fear of losing control in managing such classrooms and concerns about grading in such settings were influential reasons for single-option teaching (see Table 3.35).

Table 3.36 shows principals' responses when asked about the use of flexible scheduling to accommodate the learning needs of students. Sixty-three percent (63%) of the principals reported use of flexible scheduling for special education students, 60% reported using flexible scheduling for remedial/at-risk students, while only 57% reported using flexible scheduling for advanced/gifted students.

Fifty-one percent (51%) of the principals reported daily movement among classes by students across various ability levels. Eight percent (8%) reported there was never movement among classes by students of various ability levels (see Table 3.37).

Table 3.35

Reasons for Teachers' Lack of Varied Learning Options by Principal Sample

	Not a Factor	Somewhat Influential	Influential	Very Influential	Don't Know	Missing
Fear of losing control in managing such classrooms	69 (14)*	165 (33)	161 (32)	79 (16)	6 (1)	20 (4)
Lack of comfort in knowing how to develop multiple learning options	26 (5)	136 (27)	193 (39)	120 (24)	2 (<1)	23 (5)
Lack of appropriate instructional materials	141 (28)	189 (38)	115 (23)	32 (6)	2 (<1)	21 (4)
Lack of planning time	202 (4)	109 (22)	84 (17)	83 (17)	3 (1)	19 (4)
Don't see a need for offering varied learning options based on student readiness	111 (22)	178 (36)	127 (25)	50 (10)	12 (2)	22 (4)
Concerns about grading in such settings	82 (16)	168 (34)	149 (30)	76 (15)	6 (1)	19 (4)
Inadequate blocks of time for multiple activities	177 (35)	126 (25)	121 (24)	47 (9)	5 (1)	24 (5)

* ( ) indicates % of respondents.

Table 3.36

Principal Reported Use of Flexible Scheduling to Accommodate Learning Needs

	Never	A Few Times Per Year	Monthly	Weekly	Daily	Don't Know	Missing
Special education learners	71 (14)*	55 (11)	34 (7)	71 (14)	224 (45)	4 (1)	41 (8)
Advanced/ gifted learners	103 (21)	66 (13)	55 (11)	94 (19)	134 (27)	6 (1)	42 (8)
Remedial/ at-risk learners	89 (18)	58 (12)	46 (9)	88 (18)	166 (33)	4 (1)	49 (10)

* ( ) indicates % of respondents.

Table 3.37

Movement Among Classes by Students Across Various Ability Levels

	Never	A Few Times Per Year	Monthly	Weekly	Daily	Don't Know	Missing
n	39	70	21	44	254	21	51
%	8	14	4	9	51	4	10

Cooperative Learning

Principals responded to five questions concerning cooperative learning. Table 3.38 displays principals' responses when asked about the frequency of use of cooperative learning groups in classrooms. As can be seen, 67% reported that cooperative learning was used at least weekly in their middle school classrooms.

Table 3.38

Use of Cooperative Learning Reported by Principals

	Never	A Few Times Per Year	Once a Month	Once a Week	2-3 Times a Week	Daily	Don't Know	Missing
n	7	44	77	112	171	55	4	30
%	1	9	15	22	34	11	1	6

Principals were then asked about grouping arrangements during cooperative learning (see Table 3.39). Seventy-six percent (76%) reported that heterogeneous grouping within each cooperative group was used more than half the time; 82% reported that homogeneous grouping within each cooperative group was used less than half the time. Forming cooperative groups based solely on single gender and forming cooperative groups composed solely of minority students were reported to be used less than 25% of the time by the great majority of the respondents (86% and 90%, respectively).

Table 3.40 reports principals' perceptions of the use of common cooperative learning strategies by teachers. A large percentage of the responding principals reported not knowing about the use of particular strategies in the classroom. Of those principals who did indicate the use of cooperative strategies, there is no one particular strategy that was reported as used more than others.

Principals were also asked to respond to items that indicated their beliefs about the usefulness of cooperative learning. Table 3.41 presents their responses. Eighty-four percent (84%) believed cooperative learning is an effective alternative to homogeneously grouped classes and that cooperative groups are effective in teaching complex thinking skills. Eighty-eight percent (88%) believed cooperative groups are effective in teaching basic skills; 83% believed cooperative groups are effective in promoting peer respect in diverse populations; 79% believed special education students are effectively taught in cooperative groups by peers; 74% believed advanced/gifted students learn more academically from teaching other students; and 86% believed advanced/gifted students need experiences provided by cooperative groups to help in getting along with peers.

Table 3.39

Principals' Reported Grouping Arrangements During Cooperative Learning

	0-25%	26-50%	51-75%	76-100%	Missing
Heterogeneous grouping within each cooperative group	41 (8)*	53 (11)	138 (28)	238 (48)	30 (6)
Homogeneous grouping within each cooperative group	313 (63)	95 (19)	43 (9)	18 (4)	31 (6)
Forming cooperative groups based solely on single gender	432 (86)	23 (5)	9 (2)	4 (1)	32 (6)
Forming cooperative groups composed solely of minority students	44 (90)	8 (2)	6 (1)	4 (1)	34 (7)

* ( ) indicates % of respondents.

Table 3.40

Principals' Reported Teacher Use of Cooperative Learning

	Never	A Few Times a Year	Once a Month	Once a Week	2-3 Times a Week	Once a Day	Don't Know	Missing
Jigsaw	38 (8)*	82 (16)	58 (12)	53 (11)	25 (5)	10 (2)	151 (30)	83 (17)
Teams, Games, & Tournaments	17 (32)	72 (14)	97 (20)	98 (20)	51 (10)	17 (3)	74 (15)	74 (15)
Student Teams Achievement Divisions	49 (10)	62 (12)	83 (17)	72 (14)	27 (5)	10 (2)	118 (24)	79 (16)
Cooperative Integrated Reading & Composition	29 (6)	57 (11)	67 (13)	78 (16)	54 (11)	26 (5)	110 (22)	79 (16)
Group Investigation	18 (4)	53 (11)	78 (16)	95 (19)	71 (14)	27 (5)	88 (18)	70 (14)

* ( ) indicates % of respondents.

Table 3.41

Principals' Beliefs About Cooperative Learning

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know	Missing
Cooperative learning is an effective alternative to homogeneously grouped classes	12 (2)*	37 (7)	218 (44)	199 (40)	16 (3)	18 (4)
Cooperative groups are effective in teaching basic skills	2 (<1)	36 (7)	239 (48)	198 (40)	7 (1)	18 (4)
Cooperative groups are effective in promoting peer respect in diverse populations	0 (0)	2 (<1)	217 (43)	250 (50)	9 (2)	22 (4)
Cooperative groups are effective in teaching complex thinking skills	1 (<1)	44 (9)	247 (50)	170 (34)	19 (4)	19 (4)
Special education students are effectively taught in cooperative groups by peers	6 (1)	56 (11)	273 (55)	121 (24)	24 (5)	20 (4)
Advanced/gifted students learn more academically from teaching other students	7 (1)	71 (14)	228 (46)	140 (28)	34 (7)	20 (4)
Advanced/gifted students need experiences provided by cooperative groups in getting along with peers	4 (1)	31 (6)	210 (42)	221 (44)	15 (3)	19 (4)

* ( ) indicates % of respondents.

Table 3.42 displays the benefits which principals believed students derived from cooperative learning. In general, principals believed all students (culturally diverse, female, advanced/gifted, special education, remedial/at-risk) benefit from cooperative learning, with a large portion believing substantial benefit is obtained.

Responses to Open-Ended Questions by Principals

Principals were presented with two parallel scenarios. In one, the family of a child previously identified as learning disabled has moved into the community. The parents come to the principal's middle school to express their belief that their child needs special services and to inquire about the appropriateness of a regular middle school classroom for their child. In the second scenario, parents of a child advanced in several areas of learning and also new to the community come to express their concern that it is often easy for their child to become bored with school. They note that the child has been happiest and most productive in advanced classes and other special programs for advanced learners. They too want to inquire about the appropriateness of the principal's middle school for their child. In both instances, principals were asked to give prose responses indicating their response to the parents. In most instances, principals seemed supportive and confident of their school's capacity to serve the scenario students well. Several interesting patterns in responses within and between exceptionalities were evident.

Table 3.42

Principals' Believed Benefits Received by Particular Groups From Cooperative Learning

	None	A Little Benefit	Benefit	Substantial Benefit	Don't Know	Missing
Culturally diverse students	12 (2)*	20 (4)	206 (41)	191 (38)	49 (10)	22 (4)
Female students	10 (2)	24 (5)	254 (51)	144 (29)	41 (8)	27 (5)
Advanced/gifted students	9 (2)	43 (9)	228 (46)	164 (33)	26 (5)	30 (6)
Special education students	4 (1)	43 (9)	195 (39)	202 (40)	18 (4)	38 (8)
Remedial/at-risk students	1 (<1)	31 (6)	208 (42)	214 (43)	12 (2)	34 (7)

* ( ) indicates % of respondents.

Services for Middle Schoolers With Learning Disabilities

While nearly all principals responded to the open-ended questions over half of the responses regarding services to students with learning disabilities were too vague to classify. "The child must first be tested." "The child will be tested and placed in an appropriate program. We have many programs." "I would invite them to sit in on classes . . . would explain the process by which students are referred for special ed . . . would also refer them to our guidance and pupil personnel staff to talk with them about concerns regarding their child." "We believe in a least restrictive environment . . . I would share information about integration of special ed. students with the regular program as appropriate." A very small number of principals indicated no services for learning disabled youngsters.

Three categories of services emerged from principal responses as dominating services for middle schoolers with learning disabilities. Most common by far was some sort of an inclusionary or a mainstreaming model, which was typically described as occurring with (1) either the support of a resource teacher in the regular classroom or (2) part-time assistance in a special education resource setting. "I would assure the parents that my staff is a veteran staff and knows how to instruct learning disabled students, that we have a comprehensive inclusion program set up, and that our Learning Resource Center teacher does an excellent job of following up on what is covered in the content area classes." "Learning disabled students are generally mainstreamed with resource support. The mainstream teacher will employ specific modifications, as per an IEP. The resource teacher will be the child's advocate and work closely with the child and classroom teachers."

Less common, but still evident service mechanisms included full integration/inclusion with no special support services noted ("Our school is a full integration school and we believe all students' needs are best met in the regular classroom."), and use of a resource room with little, if any, mention of connection with the regular classroom ("We have a special resource class for students having learning difficulty in math"; "We have a Chapter [remedial] class.")

Infrequently mentioned methods of addressing needs of students with learning disabilities included: cooperative learning, tutoring, peer tutoring, and computer-assisted instruction. Of these instructional strategy approaches to service, cooperative learning was most often listed. Classifiable principal responses indicated, however, that for students with learning disabilities, services were most often provided via special structural and personnel provisions.

Services for Middle Schoolers Advanced in Learning

As was the case with responses to the scenario regarding the student with learning disabilities, over half of principal responses to the scenario for advanced learners also were too vaguely written to be classified. "We try to meet the needs of all our students."

Three interesting differences were evident across responses given by principals for meeting the needs of advanced learners. The first occurred infrequently, but was interesting because of the comparison it provided with responses of the same principal to the two different exceptionalities. In each instance, these principals affirmed the presence of services for students with learning disabilities, but not with advanced learners. One principal who noted that his school *had* money and several programs for learning disabled students wrote that he would tell parents of the advanced learner that "we will challenge their child as best we can." He noted that due to budgetary constraints there were no special programs for advanced learners in the budget. "We will do our best to challenge within the regular classroom." Another principal wrote that he would encourage the parents of the learning disabled middle schooler to try out his school where "many LD students do well in a heterogeneous classroom with some supporting services arranged." For the parents of the advanced learner, he wrote, "Our school would not be a good choice. I would refer them to a school with gifted and talented classes." A third principal talked about going over the child's IEP with the parents of the learning disabled middle schooler. For the parents of the advanced learner, he began, "I would tell them this is a general ed school as opposed to an academically focused school." Another principal explained that, "There is a good LD program in our building with excellent cooperation between the specialist and classroom teacher." To parents of the advanced learner, the principal responded, "We have no gifted and talented program in our school. Regular classroom teachers try to the best of their ability to challenge students."

A second pattern—and the most common in response to advanced learners—was heavy reliance on special full-time and part-time classes to provide for these students. Whereas the predominate pattern for students with learning disabilities was inclusion with some sort of support directly connected to the regular classroom/curriculum, advanced learners were most often served in advanced classes (honors, pre-International Baccalaureate, early admission to algebra) or pull-out programs. "We have a G&T section for each grade level where a more challenging curriculum is covered." "Our school does provide a class for high ability learners. This class meets once a week for an hour." "A teacher is provided one day a week to provide a variety of enrichment activities." Several indicated some sort of accelerative option. "We just had a student go to the high school (for math) after he completed Algebra I, geometry, and Algebra II in our school." "High school classes are available when students need them." Thus for advanced learners, differentiation of learning seemed most likely to take place between classes or outside of the regular classroom, whereas the goal for services for students with learning disabilities seemed most often to be linkage with the heterogeneous, regular classroom.

A third pattern in responses which differed for advanced learners compared with students who have learning disabilities had to do with a far greater number of instances (approximately five times as many) in which principals indicated that services for gifted learners were provided via instructional strategies or some other mechanism which seems incomplete or tangential to the curriculum as a whole (as opposed to structural and staff provisions which would appear more pervasive and powerful in the child's day). Common among such responses were: projects, independent study, compacting, cooperative learning, and technology. Several principals listed services as consisting of peer tutoring, teaming, interdisciplinary learning, or constructivist learning. Approximately 20% of principals listed extracurricular activities or contests as their mode of service for advanced middle schoolers.

CHAPTER 4: Middle School Teacher Information

Questions on the Middle School Teacher Survey were designed to elicit information about (a) teacher background, (b) teacher beliefs, (c) curriculum, instructional, and assessment practices, and (d) cooperative learning. This chapter presents descriptive information on teachers who completed and returned the survey by June 1, 1995. The teacher surveys were distributed by 77 randomly selected principals who had responded to the administrator survey. Of the 817 teacher surveys reported distributed, 449 were returned for a response rate of 61%.

Teacher Demographics and Training

Teachers were asked about their gender and ethnicity, highest academic degree they had earned, the grade level(s) taught, the number of years they had taught, as well as the discipline areas in which they were currently teaching, and the type of endorsement held. Teachers' responses to each of these questions are described in turn. In addition, breakdowns by community type, poverty level, and region of the country of the teachers' schools are also given.

Table 4.1 portrays demographic and education information obtained from responding teachers. Of the 449 teachers, 70% (*n* = 316) were females (29% males); 93% (*n* = 416) were White with the remaining 7% distributed across African Americans (*n* = 12), Asian Americans (*n* = 1), Hispanic Americans (*n* = 6), and Native Americans (*n* = 7). The majority of teachers held either a Master's degree (33%) or a Bachelor's degree (31%), followed by 17% who held a Bachelor's degree plus additional hours and 17% who held a Master's degree plus additional hours. Only one teacher reported holding a doctorate. Fifty-one percent (51%) of the participating teachers held a K-8 endorsement, 28% held a 7-12 endorsement, and only 17% held a middle school endorsement (grades 6-8).

Teachers were asked to indicate the disciplines they were responsible for teaching. One hundred-ninety (190) indicated teaching at least language arts, 162 reported teaching at least mathematics, 135 were teaching at least social studies, 127 reported teaching at least science, and 49 teachers reported teaching other classes (see Table 4.2). The average number of years reported by teachers for teaching grades K through 5 was 5.12 (*SD* = 6.7), 12.26 (*SD* = 8.8) for the middle school level (6-8), and 3.52 (*SD* = 6.0) for the high school level. Teachers reported an average of 9.8 years (*SD* = 7.9) of teaching in their current middle school.

Table 4.3 portrays school demographic information according to categories obtained from MDR for the participating teachers. Fifty-seven percent (*n* = 257) of the teachers were located in rural areas, followed by 23% (*n* = 105) in suburban areas, and 18% (*n* = 81) in urban areas. Also shown are poverty level breakdowns with 39% (*n* = 177) of the teachers in schools from communities classified as having 5.0-11.9% poverty, followed by 30% (*n* = 134) in schools with 12-24.9% poverty, 15% (*n* = 69) with 25+% poverty, and 14% (*n* = 63) with less than 4.9% poverty. Forty-one percent (*n* = 182) of the teachers were from the South, 32% (*n* = 143) from the North Central region of the country, 16% (*n* = 72) from the Northeast, and 11% (*n* = 47) from the West. The demographic breakdowns of the responding teachers were very similar to the demographic breakdowns of responding principals.

Table 4.1

Teacher Background Demographics

	n	%
Teacher Gender		
Female	316	70
Male	131	29
Teacher Race		
White	416	93
African American	12	3
Hispanic American	6	1
Asian American	1	<1
Native American	7	2
Academic Degree		
Bachelor's	137	31
Bachelor's Plus	75	17
Master's	147	33
Master's Plus	78	17
Doctorate	1	<1
Certification		
K-8	230	51
6-8	76	17
7-12	126	28

Table 4.2

School Subjects Taught by Middle School Teachers

Discipline	*n*[a]
Language Arts	190
Mathematics	162
Social Studies	135
Science	127
Other	49

[a] Total exceeds sample size due to teachers teaching classes across multiple disciplines.

Table 4.3

School Demographics Based on Participating Teachers

	n	%
Region		
South	182	41
North Central	143	32
Northeast	72	16
West	47	11
Missing	5	1
Poverty Level*		
A	63	14
B	177	39
C	133	30
D	69	15
Missing	7	2
Community Type		
Urban	81	18
Suburban	105	23
Rural	257	57
Missing	6	1
Ethnic Make-up**		
White	333	74
African American	56	13
Hispanic American	11	2
Asian American	36	8
Native American	7	2
Missing	6	1

* A = 0-4.9% poverty; B = 5-11.9% poverty; C = 12-24.9% poverty; D = 25+% poverty.
** Student body majority.

Teacher Beliefs

Teachers were also asked to indicate their agreement, or disagreement, with statements concerning middle school students (i.e., by marking agree to strongly agree). Teachers, in general, believe that middle school students:

- are more interested in social than academic pursuits (84%),
- are concrete thinkers (76%),
- are *not* weak in basic skills (37%),
- are eager to discuss ambiguous ideas (80%),
- work best with routine (92%),
- are *not* high level critical thinkers (83%),
- are extrinsically motivated to learn (72%),
- are *not* over-stressed by emphasis on academics (83%),
- are easily discouraged and lose self-confidence (65%), and
- are able to work independently (54%).

Teachers were split about evenly on whether or not middle school students are in a learning plateau period, 47% (agree or strongly agree) versus 53% (disagree or strongly disagree). The percentage of teachers marking agree or strongly agree with each statement was higher than the percentage of principals marking agree or strongly agree on all but three statements: (a) students are *not* weak in basic skills, (b) students are extrinsically motivated to learn, and (c) student are able to work independently (see Table 4.4).

Regarding their own preparation for teaching middle school students, more than half felt very well prepared for teaching middle school students, teaching advanced/gifted learners in the regular classroom, teaching their academic subjects(s), managing multiple activities within the individual classroom using a variety of instructional materials, and assessing student readiness. While teachers felt that, in general, they were adequately or very well prepared on all factors, 37% of the teachers reported not knowing if they were adequately prepared for teaching their academic subject(s) and 25% reported not knowing if they were adequately prepared for teaching middle school students. Teaching their academic subjects was the only factor which more than half the principals believed their teachers were very well prepared to do (see Table 4.5).

Table 4.4

Teachers' Beliefs About Middle School Students

	Strongly Disagree	Disagree	Agree	Strongly Agree	Missing
Students are more interested in social than academic pursuits	6 (1)*	63 (14)	213 (48)	163 (36)	1 (<1)
Students are concrete thinkers	15 (3)	86 (19)	299 (67)	40 (9)	9 (2)
Students are weak in basic skills	11 (2)	158 (35)	228 (51)	51 (11)	1 (<1)
Students are eager to discuss ambiguous ideas	8 (2)	80 (18)	253 (56)	104 (24)	2 (4)
Students work best with routine	4 (1)	33 (7)	254 (57)	156 (35)	2 (4)
Students are high level critical thinkers	92 (21)	280 (62)	75 (17)	1 (<1)	1 (<1)
Students are extrinsically motivated to learn (e.g., work for awards)	28 (7)	95 (21)	276 (62)	46 (10)	4 (1)
Students are over-stressed by emphasis on academics	61 (14)	308 (69)	68 (15)	4 (2)	4 (1)
Students are in a plateau learning period	25 (6)	207 (46)	194 (43)	19 (4)	4 (1)
Students are easily discouraged and lose self-confidence	7 (2)	153 (34)	245 (55)	43 (10)	1 (<1)
Students are able to work independently	23 (5)	182 (41)	234 (52)	10 (2)	0 (0)

* ( ) indicates % of respondents.

Table 4.5

Teachers' Belief About Professional Preparations

	Not at All	Some Ability	Adequately Prepared	Very Well Prepared	Don't Know	Missing
Teaching middle school students	0 (0)*	2 (4)	41 (9)	289 (64)	110 (25)	7 (2)
Teaching special education students in the regular classroom	41 (9)	71 (16)	209 (47)	109 (24)	13 (3)	6 (1)
Teaching remedial students in the regular classroom	10 (2)	37 (8)	206 (46)	168 (37)	21 (5)	7 (2)
Teaching advanced/ gifted learners in the regular classroom	9 (2)	23 (5)	127 (27)	235 (52)	47 (11)	8 (2)
Establishing a multicultural classroom	45 (10)	52 (12)	212 (47)	119 (27)	13 (3)	8 (2)
Teaching their academic subject(s)	0 (0)	1 (<1)	19 (4)	256 (57)	166 (37)	7 (2)
Managing multiple activities within the individual classroom	6 (1)	23 (5)	121 (27)	228 (54)	62 (14)	9 (2)
Designing multiple learning activities to give a lesson based on student readiness	18 (4)	33 (7)	173 (39)	180 (40)	36 (8)	9 (2)
Use of varied materials (textbooks, supplementary materials, etc.)	1 (<1)	1 (0)	53 (12)	278 (62)	108 (4)	8 (2)
Assessing student readiness	2 (<1)	9 (2)	136 (30)	250 (56)	45 (10)	7 (23)
Assessing student growth and achievement	5 (1)	99 (22)	284 (63)	52 (12)	0 (0)	8 (2)

* ( ) indicates % of respondents.

When asked about the degree to which they believed special classes had merit for special education, remedial/at-risk, and advanced/gifted students, teachers' response patterns were similar to those of principals. Eighty percent (80%) believed full-time classes were appropriate for special education students at least some of the time, 68% indicated appropriateness for advanced/gifted students at least some of the time, and 70% believed they were appropriate for remedial/at-risk students at least some of the time. For part-time classes, 93% reported believing part-time classes were appropriate for special education students at least some of the time, 86% believed they were appropriate for remedial/at-risk students at least sometimes, and 84% believed they were appropriate for advanced/gifted students at least sometimes. Ninety-four percent (94%) also believed that supplemental classes for assistance with complex subject matter for remedial/at-risk students were appropriate at least sometimes (see Table 4.6). (Note: While these statements may seem internally inconsistent, full-time classes could be appropriate some of the time (for certain students, in certain demographic areas, etc.)

Curriculum, Instruction, and Assessment Practices

Eight decision-making questions focusing on curriculum, instruction, and assessment practices were rated and ranked by teachers. Teachers were asked to consider twice each set of factors relating to a specific decision. First, they were asked to RATE on a scale of 1 to 4 the importance of each factor. Then they were asked to RANK the eight most important individual factors relative to the set of factors. The principals were asked to rank all factors within a set, sometimes as many as 16 factors. After consideration of the principal data, we decided after ranking eight factors, the task became tedious and the data less reliable, therefore, we asked teachers to rank only the eight most important factors.

Table 4.7 displays the ratings and rankings of those factors which influence teachers' decisions regarding the philosophy and goals of their middle schools. The top two rankings by teachers were students learning to learn (#1) and students mastering basic skills (#2); the bottom two rankings were discovery of student talent (#6) and advancement of student talent (#7). This pattern of ranking was the same for principals. Means for all seven factors were above 2, indicating they were considered at least somewhat important. However, discovery of student talent, students searching for self-understanding, and advancement of existing student talent all received mean ratings below 3, indicating relatively lower importance than the other factors.

Table 4.6

Appropriateness of Special Classes in Middle School by Teacher Sample

	Never	Seldom	Sometimes	Often	Always	Missing
Full-time classes for remedial/at-risk students	30 (7)*	90 (20)	149 (33)	98 (22)	65 (15)	17 (4)
Part-time classes for remedial/at-risk students	14 (3)	34 (8)	175 (39)	140 (31)	72 (16)	14 (3)
Full-time classes for special education students	15 (3)	59 (13)	147 (33)	113 (25)	98 (22)	17 (4)
Part-time classes for special education students	15 (3)	39 (9)	161 (36)	141 (39)	79 (18)	14 (3)
Full-time classes for advanced/gifted students	48 (11)	82 (18)	133 (30)	107 (24)	64 (14)	15 (3)
Part-time classes for advanced/gifted students	15 (3)	43 (10)	163 (36)	147 (33)	67 (15)	14 (3)
Supplemental classes for remedial/at-risk students for assistance with complex subject matter	1 (<1)	12 (3)	101 (23)	189 (42)	130 (29)	16 (4)

* ( ) indicates % of respondents.

Table 4.7

Means and Rank Ordering of Factors Which Influence Decisions Regarding Philosophy and Goals of Classrooms by Teachers

Factor	*M*	*SD*	Rank
Students learning to learn	3.43	0.77	1
Students searching for self-understanding	2.66	0.88	5
Students mastering basic skills	3.48	0.75	2
Students understanding principles and concepts of core disciplines	3.21	0.76	4
Critical thinking and problem solving by students	3.29	0.78	3
Discovery of student talent	2.65	0.83	6
Advancement of existing student talent	2.76	0.84	7

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 7 with 1 representing "Most Important" and 7 representing "Least Important."

When asked to consider 16 factors with regard to their influence on curricular decision-making (see Table 4.8), teachers rated and ranked teaching thinking skills as the most important factor, followed by providing a core curriculum and instruction beneficial to all. The factor ranked least important by teachers was interdisciplinary curriculum with a mean rating of 2.77. Modifying curriculum and instruction based on individual learning differences was ranked 7th, however, it did receive a mean rating above 3, indicating that it was important.

Other relatively low mean ratings on some of the factors again indicate lesser importance of individual differences:

- modifying curriculum and instruction to address cultural differences (*M* = 2.21),
- modifying curriculum and instruction to accommodate gender differences (*M* = 2.20), and
- students working on tasks of their own choosing (*M* = 2.15).

The teacher and principal rankings were in exact agreement on this question.

Table 4.9 shows ratings and rankings of other factors which influence decisions shaping curriculum. The top three rankings were complex open-ended problems (*M* = 3.22), student questions/choices (*M* = 2.75), and competency tests (*M* = 2.67), respectively. The bottom three rankings were textbooks (*M* = 2.76), teacher selected themes (*M* = 2.30), and state or national curriculum standards (*M* = 2.24), respectively. The bottom two rankings for principals were the top two rankings for teachers.

Table 4.8

Means and Rank Ordering of Factors Which Influence Decisions Regarding Curriculum by Teachers

Factor	*M*	*SD*	Rank
Emphasis on student differences	2.54	0.94	
Emphasis on student similarities	2.55	0.85	
Teaching thinking skills	3.40	0.84	1
Teacher as competent provider of knowledge	3.14	0.93	3
Students as architects of knowledge	2.81	0.88	5
Interdisciplinary curricula	2.77	0.91	7
Students working at their own pace within classes	2.53	0.91	
Students working on tasks of their own choosing	2.15	0.91	
Extension of learning beyond texts	3.21	0.91	4
Extension of learning beyond the classroom	3.08	0.90	8
Continuous progress between classes/grades	2.99	0.91	
Providing a core curriculum and instruction beneficial to all students	3.34	0.88	2
Modifying curriculum and instruction based on individual learning differences	3.05	0.87	6
Modifying curriculum and instruction to encourage development of varied talents in students	2.87	0.85	
Modifying curriculum and instruction to accommodate gender differences	2.20	0.96	
Modifying curriculum and instruction to address cultural differences	2.21	0.93	

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 8 with 1 representing "Most Important" and 8 representing "Least Important."

Table 4.9

Means and Ordering of Factors Which Influence Decisions Regarding Shaping Curriculum by Teachers

Factor	*M*	*SD*	Rank
Textbooks	2.76	0.84	7
Local standards/benchmarks	2.44	0.96	5
Competency tests	2.67	0.87	3
Teacher selected themes	2.30	0.94	8
Student questions/choices	2.75	0.94	2
Key concepts and principles of the core disciplines	2.74	0.87	4
Complex open-ended problems	3.22	0.80	1
State testing program	2.59	0.95	6
State or national curriculum standards	2.24	1.03	9

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 9 with 1 representing "Most Important" and 9 representing "Least Important."

Teachers were also asked about 16 factors which influence instructional practices in their classrooms. The number one factor ranked by teachers was providing concrete learning experiences for students (*M* = 3.39) followed by ensuring student mastery of core skills and knowledge (*M* = 3.32). The bottom two rankings for teachers were state-level mandates and initiatives (*M* = 2.35) and encouraging student self-esteem through acceptance by staff (*M* = 3.04). Interestingly, the mean ratings were not reflective of the rankings that were given by teachers. In other words, a factor's mean rating did not necessarily indicate its rank ordering. Principals and teachers both ranked ensuring student mastery of core skills and knowledge second (see Table 4.10).

Regarding decisions about selection of texts and other instructional materials (see Table 4.11), teachers reported: Meeting varied levels of student readiness (*M* = 3.25, rank 1), Having a readability suited to the general student population (*M* = 3.17, rank 2), and Demonstrating depth and complexity of information in the world (*M* = 2.80, rank 3) as the top three influences. This was in complete agreement with principals' rankings. The bottom three factors were Local assessment programs (*M* = 2.45, rank 7), State assessment program (*M* = 2.30, rank 8), and State recommendations (*M* = 2.28, rank 9). The teachers bottom two rankings were also in agreement with principals' lowest rankings.

Table 4.10

Means and Rank Ordering of Factors Which Influence Decisions Regarding Instructional Practices in Classrooms by Teachers

Factor	*M*	*SD*	Rank
Providing concrete learning experiences for students	3.39	0.83	1
Having students grapple with complex ideas	2.88	0.85	
Encouraging student self-efficacy through hard work	3.22	0.82	3
Encouraging student self-esteem through acceptance by staff	3.04	0.93	8
Ensuring student mastery of core skills and knowledge	3.32	0.83	2
Adapting instruction for varied developmental levels of students	3.18	0.85	6
A place for students to be secure and accepted	3.15	0.91	4
A place for intellectual growth	3.33	0.79	5
A place for consolidation of basic skills	3.00	0.84	
Based on your own training and experience	3.16	0.93	
Formal discussion with faculty	2.57	0.90	
Guidance from National Middle School Association materials or conferences	2.00	0.88	
Parent input	2.42	0.91	
District-level mandates and initiatives	2.49	0.92	
State-level mandates and initiatives	2.35	0.95	7
National-level mandates and initiatives	2.14	0.97	

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 8 with 1 representing "Most Important" and 8 representing "Least Important."

Table 4.11

Means and Rank Ordering of Factors Which Influence Decisions Regarding Selection of Texts and Other Instructional Materials in Middle Schools by Teachers

Factor	*M*	*SD*	Rank
Meeting varied levels of student readiness	3.25	0.85	1
Highlighting roles of various ethnic groups	2.36	0.96	6
Having a readability suited to the general student population	3.17	0.86	2
Demonstrating depth and complexity of information in the world	2.80	0.89	3
Showing both males and females as active participants in the world	2.94	0.96	5
Providing varied perspectives on issues and events	2.89	0.90	4
State recommendations	2.28	0.97	9
State assessment programs	2.30	1.00	8
Local assessment programs	2.45	0.95	7

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 9 with 1 representing "Most Important" and 9 representing "Least Important."

When asked about the influences of academic needs of particular special population on decisions relative to instructional planning, teachers ranked remedial/at-risk learners as the most important group (*M* = 3.08), followed by advanced/gifted learners (*M* = 3.03), and special education learners (*M* = 2.94), with culturally diverse students ranked last (*M* = 2.61). However, as can be seen from the means (see Table 4.12), all groups were considered at least somewhat important in making decisions for instructional planning. Differences in rankings between principals and teachers occurred with special education learners and advanced/gifted learners. Where teachers ranked them third and second, respectively, principal rankings indicated a reversal of this order.

Table 4.12

Means and Rank Ordering of Factors Which Influence Decisions Regarding Academic Planning in Middle Schools by Teachers

Factor	*M*	*SD*	Rank
Academic needs of culturally diverse learners	2.62	1.00	4
Academic needs of remedial/at-risk learners	3.08	0.86	1
Academic needs of advanced/gifted learners	3.03	0.86	2
Academic needs of special education learners	2.94	0.90	3

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 4 with 1 representing "Most Important" and 4 representing "Least Important."

As can be seen from Table 4.13, teachers reported remedial/at-risk learners as the most important to consider regarding instructional planning for social/affective needs. Surprisingly, culturally diverse learners were ranked last (4th) with special education learners' needs being ranked second and advanced/gifted learners' needs ranked third. These rankings were completely different from principal rankings with the exception of remedial/at-risk students being ranked first. Interestingly, none of the four groups received a mean rating above 3, which would have indicated that the groups were important. Instead, the means ranged from 2.57 to 2.95 indicating the groups were between "somewhat important" and "important."

When asked about factors influencing decisions regarding student grading (see Table 4.14), teachers reported that the most important factor, both in rating and ranking, was Student effort followed by Individual improvement or progress over last grading period. Achievement relative to the rest of class received the lowest mean rating (*M* = 2.21) and was ranked last. This pattern was the same for principals.

Table 4.13

Means and Rank Ordering of Factors Which Influence Decisions Regarding Social/Affective Planning by Teachers

Factor	*M*	*SD*	Rank
Social/affective needs of culturally diverse learners	2.57	0.99	4
Social/affective needs of remedial/at-risk learners	2.95	0.89	1
Social/affective needs of advanced/gifted learners	2.78	0.89	3
Social/affective needs of special education learners	2.81	0.93	2

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 4 with 1 representing "Most Important" and 4 representing "Least Important."

Table 4.14

Means and Rank Ordering of Factors Which Influence Decisions Regarding Student Grading by Teachers

Factor	*M*	*SD*	Rank
Achievement relative to the rest of class	2.21	1.00	5
Individual improvement or progress over last grading period	2.98	0.89	2
Student effort	3.42	0.83	1
Class participation	2.83	0.85	4
Completing homework assignments	3.06	0.88	3

Note. Means based on a scale of 1 to 4 with 1 representing "Not Important" to 4 representing "Very Important." Ranking based on a scale of 1 to 5 with 1 representing "Most Important" and 5 representing "Least Important."

When asked about the use of exploratory classes, 47% of the teachers indicated that more than half of the time classes provided the same enrichment choices for all learners. Forty-eight (48%) percent reported less than half were used to provide the same enrichment choices for all students (see Table 4.15). For the majority of teachers reporting, less than 25% of the classes provided support for culturally diverse learners. Teachers and principals were only in disagreement over the use of exploratory classes being used to provide the same enrichment choices for all learners.

When asked about descriptors of students' most typical learning situations, teachers reported (see Table 4.16):

- learning occurred part-to-whole (77%) rather than whole-to-part (20%),
- students worked in groups (51%) rather than alone (46%),
- students practiced knowledge (69%) rather than acted on knowledge (28%), and
- there was classroom variety (60%) rather than classroom routine (36%).

Although the percentage of teacher responses was different from principals, the same patterns occurred across the two groups.

Table 4.15

Teachers Reported Use of Exploratory Classes

	0-25%	26-50%	51-75%	76-100%	Missing
Provide same enrichment choices for all learners	133 (30)*	81 (18)	74 (17)	134 (30)	27 (6)
Provide extra help and support for special education learners	195 (43)	81 (18)	68 (15)	72 (16)	33 (7)
Provide extra help and support for remedial/at-risk learners	169 (38)	104 (23)	78 (17)	65 (15)	33 (7)
Provide advanced learning options for advanced/gifted learners	195 (43)	98 (22)	76 (17)	47 (11)	33 (7)
Provide support for culturally diverse students	279 (62)	69 (15)	41 (9)	25 (6)	35 (8)

* ( ) indicates % of respondents.

Table 4.16

Situations Most Typical of Student Learning Reported by Teachers

	n	%
Whole-to-part learning	90	20
Part-to-whole learning	344	77
Missing	15	3
Students work alone	207	46
Students work in groups	277	51
Missing	15	3
Students acting on knowledge	125	28
Students practicing knowledge	308	69
Missing	16	3
Classroom variety	271	60
Classroom routine	163	36
Missing	15	3

Table 4.17 indicates teachers responses when asked about the amount of time particular strategies were used in their classrooms. The majority of teachers (63%) reported cooperative learning occurred less than half the time; 67% reported using differentiated lessons for advanced/gifted students less than half the time; and 68% reported using differentiated lessons for remedial/at-risk students less than half the time. Teachers reported solid instruction in basic skills, active learning by students, tight classroom management, adherence to state or district learning standards, adherence to school-adopted instructional model, and participation of students of all learning levels as occurring more than half the time in their classrooms.

Table 4.18 displays teachers' responses when asked about strategies used in their classrooms to meet varied developmental or readiness levels of students. Parent volunteers to work with students, learning labs, and developmental age grouping were reported as used only a few times a year or less. Peer tutoring and before/after school assistance were the two strategies most frequently used to address varied developmental levels of students. This was also the same pattern that was reported by the principals.

Table 4.17

Amount of Time Particular/Instructional Strategies Used in the Classroom Reported by Teachers

	0-25%	26-50%	51-75%	76-100%	Missing
Solid instruction in basic skills	45 (10)*	117 (26)	173 (39)	108 (24)	6 (1)
Active learning by students	11 (2)	112 (25)	200 (45)	119 (27)	7 (2)
Differentiated lessons which attend to the needs of remedial/at-risk students	160 (36)	144 (32)	85 (19)	51 (11)	9 (2)
Differentiated lessons which attend to the needs of advanced/gifted students	186 (41)	116 (26)	96 (21)	41 (9)	10 (2)
Use of cooperative learning	124 (28)	158 (35)	111 (25)	46 (10)	10 (2)
Tight classroom management	57 (13)	88 (20)	125 (28)	167 (37)	12 (3)
Adherence to district or state learning standards	62 (14)	50 (11)	136 (30)	188 (42)	13 (3)
Adherence to a school-adopted instructional model	103 (23)	60 (13)	141 (31)	129 (29)	16 (4)
Participation or engagement of students of all learning levels	86 (19)	99 (22)	140 (31)	102 (23)	22 (5)

* ( ) indicates % of respondents.

Table 4.18

Strategies Used to Meet Varied Developmental or Readiness Levels of Students by Teachers

	Never	A Few Times a Year	Monthly	Weekly	Daily	Don't Know	Missing
Parent volunteers to work with special education learners	316 (70)*	43 (10)	7 (2)	17 (4)	3 (1)	59 (13)	4 (1)
Parent volunteers to work with remedial learners	307 (68)	60 (13)	3 (1)	27 (6)	4 (1)	43 (10)	5 (1)
Parent volunteers to work with gifted learners	308 (69)	69 (15)	12 (3)	12 (3)	1 (0)	43 (10)	4 (1)
Peer tutoring	24 (5)	76 (17)	69 (15)	157 (35)	103 (23)	15 (3)	5 (1)
Before and after school assistance	26 (6)	58 (13)	43 (10)	171 (38)	138 (31)	6 (0)	7 (2)
Learning labs	146 (33)	69 (15)	36 (8)	62 (14)	37 (8)	91 (20)	8 (2)
Advanced co-curricular activities	106 (24)	122 (27)	58 (13)	56 (13)	23 (5)	72 (16)	12 (2)
Developmental age grouping	277 (62)	36 (8)	16 (4)	12 (3)	12 (3)	85 (19)	11 (2)
Grading based on individual growth	112 (25)	83 (19)	50 (11)	67 (15)	92 (21)	36 (8)	9 (2)

*( ) indicates % of respondents.

When asked about specific strategies used to address student diversity, there were no clearly established patterns by teachers (see Table 4.19). However, the two strategies reported used at least weekly were breaking work down into small parts, and varied modes of expressing learning. This also was in agreement with the principals' responses.

Table 4.19

Use of Instructional Strategies to Address Student Diversity Reported by Teachers

	Never	A Few Times a Year	Monthly	Once a Week	2-3 Times a Week	Daily	Missing
Pre-assessment of student knowledge/understanding	30 (7)*	200 (45)	60 (13)	54 (12)	30 (7)	52 (12)	23 (5)
Tape recorded content	249 (56)	27 (28)	29 (7)	12 (3)	10 (2)	2 (0)	20 (5)
Peer tutors	39 (9)	84 (19)	85 (19)	86 (19)	72 (16)	64 (14)	19 (4)
Compacting	206 (45)	108 (24)	41 (9)	31 (7)	20 (5)	15 (3)	28 (6)
Learning contracts	240 (54)	112 (25)	32 (8)	17 (4)	9 (2)	17 (4)	22 (5)
Tiered assignments	106 (24)	114 (25)	55 (12)	39 (9)	48 (10)	69 (15)	18 (4)
Advanced organizers	108 (24)	73 (16)	73 (16)	52 (12)	58 (13)	52 (12)	33 (7)
Breaking work down into small parts	12 (3)	29 (7)	61 (14)	71 (16)	94 (21)	162 (36)	20 (5)
Varied modes of expressing learning	19 (4)	39 (9)	68 (15)	57 (13)	107 (24)	135 (30)	24 (5)
Independent study	54 (12)	109 (24)	69 (15)	70 (16)	71 (16)	55 (12)	21 (5)
Interest groups	138 (31)	136 (30)	78 (17)	38 (9)	28 (6)	8 (2)	23 (5)
Learning centers	225 (50)	102 (23)	45 (10)	26 (6)	14 (3)	15 (3)	22 (5)
Computer programs which focus on skills remediation	206 (46)	100 (22)	43 (10)	47 (11)	21 (5)	15 (3)	17 (4)
Advanced computer programs	238 (53)	78 (17)	46 (10)	26 (6)	17 (4)	16 (4)	28 (6)
Flexible pacing	104 (23)	79 (18)	71 (16)	44 (10)	41 (9)	82 (18)	28 (6)
Graduated rubrics	146 (33)	73 (16)	61 (14)	43 (10)	53 (12)	46 (10)	27 (6)
Mentorships for advanced students	276 (62)	67 (62)	33 (7)	21 (5)	14 (3)	6 (1)	32 (7)
Mentorships for remedial/at-risk students	215 (48)	81 (18)	40 (9)	42 (9)	19 (4)	27 (6)	25 (6)
Student-generated criteria for tasks and products	152 (34)	134 (30)	66 (15)	42 (9)	20 (5)	5 (1)	30 (7)

* ( ) indicates % of respondents.

When teachers were asked about factors which affect the use, or lack of use of varied learning options, patterns that emerged were in some ways similar to the principals' patterns and in other ways dissimilar. Teachers and principals agreed that lack of appropriate instructional materials, lack of planning time, and inadequate blocks of time for multiple activities were either not a factor or were only somewhat influential in the lack of varied learning options used. However, teachers and principals were in disagreement about other factors such as fear of losing control, lack of comfort in knowing how to develop multiple learning options, and concerns about grading in such settings. Teachers did not feel these reasons were factors or were only somewhat influential, whereas, principals, in general, indicated that the factors were either influential or very influential (see Table 4.20).

Teachers responded somewhat differently than principals when asked about the particular types of student assessment used in instruction. Teachers reported portfolios or other alternative assessments, literacy/competency tests, individual goal setting, and norm-referenced tests, as having only slight or no influence on instruction. Seventy percent (70%) of the teachers reported standard report cards as having a considerable or a dominant amount of influence on instruction (see Table 4.21). Although the percentages differed for principals when asked about the influence of particular types of assessment on instruction, the same pattern was established by the principals as was by the teachers.

Table 4.22 displays teacher responses when asked about how academic success was best defined. Forty-five percent (45%) of the teachers reported that pushing individual students to their performance limit was the best definition of student academic success, followed by application of complex thinking skills (29%) and mastery of basic skills (24%). These same patterns were also reported by the principals.

Table 4.20

Teachers' Reasons for Lack of Varied Learning Options

	Not a Factor	Somewhat Influential	Influential	Very Influential	Missing
Fear of losing control in managing such classrooms	249 (56)*	122 (27)	59 (13)	15 (3)	4 (1)
Lack of comfort in knowing how to develop multiple learning options	231 (51)	157 (35)	45 (10)	10 (2)	6 (1)
Lack of appropriate instructional materials	169 (38)	146 (33)	90 (20)	40 (9)	4 (1)
Lack of planning time	149 (33)	116 (26)	95 (21)	85 (19)	4 (1)
Don't see a need for offering varied learning options based on student readiness	77 (17)	138 (31)	159 (35)	65 (15)	10 (2)
Concerns about grading in such settings	185 (41)	164 (37)	84 (19)	11 (2)	5 (1)
Inadequate blocks of time for multiple activities	115 (26)	142 (32)	129 (29)	55 (12)	8 (2)

* ( ) indicates % of respondents.

Table 4.21

Influence of Student Assessment on Instruction Reported by Teachers

	None	Slight	Considerable	Dominant	Missing
Portfolios or other alternative assessments	127 (28)*	178 (40)	116 (26)	18 (4)	10 (2)
Standard report cards	21 (5)	105 (23)	191 (43)	121 (27)	11 (2)
Literacy/competency tests	83 (19)	172 (38)	162 (36)	21 (5)	11 (2)
Individual goal setting	68 (15)	199 (44)	154 (34)	17 (4)	11 (2)
Norm referenced tests	104 (23)	215 (48)	102 (23)	16 (4)	12 (3)

* ( ) indicates % of respondents.

Table 4.22

Indicators of Student Academic Success by Teacher Sample

	n	%
Mastery of basic skills	106	24
Application of complex thinking skills	128	29
Pushing individual students to their performance limit	200	45
Missing	14	3

Cooperative Learning

Teachers responded to five questions concerning cooperative learning in the classroom. Table 4.23 displays teachers responses to those questions. Sixty-three percent (63%) reported that cooperative learning was used at least weekly in their classrooms, which was similar to principals reporting (67%).

Table 4.23

Use of Cooperative Learning by Teacher Sample

	Never	Monthly	Once a Week	2-3 Times a Week	Daily	Don't Know	Missing
n	17	99	94	127	61	37	14
%	4	22	21	28	14	8	3

Teachers also reported on the types of grouping arrangements used during cooperative learning. Table 4.24 indicates that 73% reported heterogeneous grouping within each cooperative group was used more than half the time; 86% reported using homogeneous grouping within each cooperative group less than half the time. Forming cooperative groups based solely on single gender and forming cooperative groups composed solely of minority students were reported to be used less than 25% of the time by more than 90% of the teachers in each case. These same patterns were also reflected in the principals' responses.

Table 4.25 reports common cooperative learning strategies used by teachers in their classrooms. The majority of teachers either did not answer the question or indicated that the particular strategies presented were used a few times a year at the most.

Teachers were also asked to respond to questions that indicated their beliefs about the usefulness of cooperative learning. Table 4.26 reports that 77% believed that cooperative learning is an effective alternative to homogeneously grouped classes and that cooperative groups are effective in teaching complex thinking skills. Seventy-three percent (73%) believed cooperative groups are effective in teaching basic skills; 87% believed cooperative groups are effective in promoting peer respect in diverse populations; 67% believed special education students are effectively taught in cooperative groups by peers; 66% believed that advanced/gifted students learn more academically from teaching other students and 83% believed that advanced/gifted students need experiences provided by cooperative groups in getting along with peers. Although the percentages were slightly different between teachers and principals, both groups were in accord about the believed benefits of cooperative learning.

Table 4.24

Teacher's Reported Grouping Arrangements During Cooperative Learning

	0-25%	26-50%	51-75%	76-100%	Missing
Heterogeneous grouping within each cooperative group	53 (12)*	55 (12)	88 (20)	237 (53)	16 (4)
Homogeneous grouping within each cooperative group	309 (69)	77 (17)	30 (7)	16 (4)	17 (4)
Forming cooperative groups based solely on single gender	393 (88)	28 (6)	9 (2)	4 (1)	15 (3)
Forming cooperative groups composed solely of minority students	420 (94)	8 (2)	3 (1)	3 (1)	15 (3)

* ( ) indicates % of respondents.

Table 4.25

Teachers Reported Use of Cooperative Learning Strategies in Their Classrooms

	Never	A Few Times a Year	Monthly	Once a Week	2-3 Times a Week	Daily	Missing
Jigsaw	189 (42)*	63 (14)	37 (8)	18 (4)	6 (1)	0 (0)	136 (30)
Teams, Games, & Tournaments	82 (18)	81 (18)	78 (17)	53 (12)	25 (6)	4 (1)	126 (28)
Student Teams Achievement Divisions	172 (38)	66 (15)	35 (8)	21 (5)	16 (4)	2 (<1)	137 (31)
Cooperative Integrated Reading and Composition	155 (35)	44 (10)	41 (9)	39 (9)	29 (7)	8 (2)	133 (30)
Group Investigation	89 (20)	64 (14)	72 (16)	47 (11)	46 (10)	6 (1)	125 (28)

* ( ) indicates % of respondents.

Table 4.26

Teachers' Beliefs About Cooperative Learning

	Strongly Disagree	Disagree	Agree	Strongly Agree	Missing
Cooperative learning is an effective alternative to homogeneously grouped classes	22 (5)*	63 (14)	255 (57)	89 (20)	20 (5)
Cooperative groups are effective in teaching basic skills	9 (2)	98 (22)	264 (59)	63 (14)	15 (3)
Cooperative groups are effective in promoting peer respect in diverse populations	5 (1)	40 (9)	291 (65)	100 (22)	13 (3)
Cooperative groups are effective in teaching complex thinking skills	10 (2)	75 (17)	279 (62)	69 (15)	16 (4)
Special education students are effectively taught in cooperative groups by peers	14 (3)	111 (25)	248 (55)	54 (12)	22 (5)
Advanced/gifted students learn more academically from teaching other students	22 (5)	113 (25)	229 (51)	68 (15)	17 (4)
Advanced/gifted students need experiences provided by cooperative groups in getting along with peers	14 (3)	47 (11)	251 (56)	122 (27)	15 (3)

* ( ) indicates % of respondents.

Table 4.27 displays further data relative to teachers' beliefs about benefits derived from cooperative learning. In general, teachers believe all students (culturally diverse, female, advanced/gifted, special education, remedial/at-risk) benefit from cooperative learning, with a large portion believing substantial benefit is received. These results agreed with the results obtained from the principals.

Teacher Responses to Open-Ended Questions by Teachers

Teachers responded to two open-ended questions on the survey. The first asked respondents to explain ways in which they plan and carry out instruction so that it is developmentally appropriate for the varied readiness, interest, learning style, and cultural profiles of early adolescents. The second question asked respondents to describe specific activities they use for five well-known cooperative strategies: Jigsaw; Teams, Games, and Tournaments (TGT); Student Teams Achievement Division (STAD); Cooperative Integrated Reading and Composition (CIRC); and Group Investigation. Teachers had the option of checking "don't use" for any strategy rather than describing an activity for that category. A capsule follows of a range of responses to the two questions as well as patterns noted in each set of responses.

Table 4.27

Teachers' Believed Benefits Received From Cooperative Learning for Particular Groups

	None	A Little Benefit	Benefit	Substantial Benefit	Missing
Culturally diverse students	38 (8)*	68 (15)	229 (51)	94 (21)	20 (5)
Female students	32 (7)	65 (15)	237 (53)	97 (22)	18 (4)
Advanced/gifted students	32 (7)	74 (17)	219 (49)	108 (24)	16 (4)
Special education students	19 (4)	64 (14)	208 (46)	140 (31)	18 (4)
Remedial/at-risk students	13 (3)	58 (13)	216 (48)	147 (33)	15 (3)

* ( ) indicates % of respondents.

Planning for Academic Diversity

Responses to the question seeking information about ways in which teachers plan lessons responsive to the diversity of readiness levels, interests, learning, and cultural profiles of their early adolescent students reflected a range of teacher skill and will. The majority of responses were so vague that they yielded little insight into teacher thought and understanding. "I try to do different things so it (sic) will work for different students." "I think about things they will like to do." "Lessons are done in a variety of ways to reach different students." Some teachers simply rejected the notion of differentiated planning out of hand. "My expectations of all students are the same." "I cannot do different planning for all my students." "It's difficult to adapt instruction because everyone has to take the same chapter test at the end of the chapter." "Class sizes are large and discipline problems so bad, I don't plan varied approaches to instruction." "I believe it's a trap to adjust to much variations (sic)."

Some teachers seemed to subscribe to the need to modify instruction for diverse learners, but described attempts at differentiation in ways which seem minimal. "I love what I do, but I don't feel capable of providing a different form of instruction for each child. I do, however, assign less for remedial students because they are so bogged down that they can't see the light, and it becomes an exercise in futility and student frustration. I may ask more probing questions, one to one, of bright students as I circulate around the room." "I work very hard to keep the curriculum on a very complex group of concepts . . . personally assisting students who need help . . . to bring all the students to mastery of the concept. Not all the students make it, but about 30% to 50% do. . . . Another 25-35% achieve a basic understanding of the concept. Another 20-25% might not achieve a complete understanding of it, but they almost all complete the activity or group study anyway." "If students don't master the topic from the exercises offered in the grammar book, I make dittos until 99% of the class has 99% mastery."

A few teachers articulated a more multi-dimensional sense of stages and elements of differentiated instruction. "I make daily assessment of students' understanding of specific as well as general concepts. Adjustment of teaching and re-teaching are made based on that assessment. As students master concepts, they move to a work station where they can explore or expand the concepts. At the same time, others are being re-taught or re-tested on the concepts." Teachers articulating this level of awareness of the planning and execution of differentiated instruction responsive to student variance in interest, readiness, learning and cultural profiles were rare—representing less than 1% of responses.

Preference for Modification Based on Readiness

Most specific references to modification of curriculum or instruction were adaptations based on student readiness rather than student interest or learning profile. Least often mentioned was adaptation based on cultural profile.

Prevalent Use and Interpretation of the Categories

Differentiation for variance in student readiness was nearly always at a micro rather than macro level (Tomlinson, 1995). That is, the curriculum seemed to stay the same for all learners, with minor adjustments (often in quantity of work) made in response to student signals of need rather than variations of content, process, and product proactively planned by the teacher in anticipation of a range of student needs. "When a student has finished all the work, I encourage them (sic) to do more." "If I see that a student doesn't get it, I encourage him to come for help." "I give some students more problems to do."

Respondents often appeared to depend on specialists and school structures (e.g., resource teachers, IEPs, pull-out programs) for macro-level differentiation. A few respondents mentioned partnerships with resource teachers who assisted them in the classroom with struggling learners. No teacher mentioned assistance from resource personnel with advanced learners. The most commonly mentioned in-class readiness modification was peer tutoring—a strategy which often appeared to employ advanced learners to teach struggling learners material which was the same for both of them.

Adaptation for student interest was most often described as providing open-ended tasks and/or giving opportunities for extra credit. Interest adaptations also appear to be additive—coming after basic requirements were fulfilled. Many teachers seemed to feel that making lessons "interesting" was synonymous with adaptations for student interest. "My expectations for all students are the same. Those who are highly interested in a particular area are given the opportunity to do extra assignments for extra credit." "I create an interest in a lesson by a game, demonstration, etc."

Adaptation for learning profile was often described as "writing instructions on the board as well as saying them aloud." "I use both board work and seat work." A number of teachers talked about use of Multiple Intelligences as an approach to learning style differences, although Howard Gardner (1985) describes intelligences as something different from and well beyond the scope of learning style. Adaptation for cultural diversity was infrequently mentioned, with the most common adaptation related to "reading books about people from different cultures." References related to adaptation for cultural differences was often reflective of tension or ambivalence on the teacher's part. "Only when we stop adapting instruction for cultural differences will be equal." "Cultural diversity is not an issue in my classes . . . I feel that they should all be held to high expectations, no matter what their background. They all need to try to do their best, and so do I." No connection was made between a student's home environment and implications for instruction in any response. One respondent mentioned an adaptation for gender. "I try to draw out girls in class discussions."

Adaptation for Struggling Learners

Teachers consistently described adaptation for struggling learners more than for advanced learners. Three themes emerged regarding modifications of instruction made for struggling learners. First, adaptations seemed aimed at providing feelings of success without necessarily ensuring academic growth. Second, performance of tasks seemed a more primary goal than quality of understanding. Third, adaptations for struggling learners often appeared to reflect diminution of teacher expectations. "Some students are graded on mastery, but some I have to grade on effort." "I try to give points for simple things like writing their name. I try to make sure everyone makes at least one 'A' before leaving the class, even if it's for something very easy to do."

Adaptation for Advanced Learners

Advanced learners were most often cast in the role of tutor, with the assumption that these students will learn adequately from teaching peers. "Teaching what they already know means the ideas will stick with them better." "When they correct the writing of low students, they (advanced students) become aware of their own writing problems." Other common adaptations for advanced learners included, encouragement "to do more work," expectations for a "higher quality level," and telling them "to work ahead" without apparent teacher involvement in that process. "My (advanced) students work on their own from a list of projects I have given them." Often the teacher seemed to accompany an expectation for working ahead with the accompanying assumption that, "they can later relay what they learned to others during small group instruction."

Targeted Teaching

Many teachers described designing their lesson for a given group, and then adapting the lesson as they could. "I teach to the upper level students in my classes, personally assisting students who need help and using peer tutors, hands-on activities, reviews, demonstrations, videos, filmstrips, and presentations by students to bring other students up to mastering the concept." "I teach to the middle." "Instruction is geared to the average learner. I make plans for my students that are based on an average learning ability." "I try to plan something that everyone can succeed in doing, maybe aimed at about low average." No teacher wrote about multiple tasks based on key understandings and developed in a variety of ways based on student profiles. One-size-fits-all planning seemed an absolute, with the only question being whose size? It was rare that multiple avenues to content, process and product were described. Rather, there was typically a "normal" lesson, with adaptations made for students who, by implication, were not normal because they did not match the lesson.

Specific Strategies for Differentiation

Adaptation of curriculum and instruction for academic diversity was described far more often in terms of language arts classes than any other, particularly using student-choice novels and student-selected writing assignments. There were no clear "favorite" strategies for differentiation. Among those listed or described at least once were: translating materials into a second language, use of open-ended activities, varied pacing, additional practice, reading materials aloud to students, use of audio visual materials to support students, providing note guides, computer aided instruction, study sessions, tutors (peer and adult), cooperative learning, learning stations, programmed instruction, pressure and encouragement, altered expectations, extracurricular competitions, and portfolio assessment. Most strategies appeared aimed at supporting struggling learners.

Descriptions of Activities Used in Five Major Cooperative Arrangements

Guidelines for appropriate use of STAD; TGT; CIRC and Group Investigation were drawn from the *Handbook of Cooperative Learning Methods* (Sharan, 1994). Teacher descriptions which matched or approximated the guidelines were assumed to reflect correct or appropriate use of the strategies. Descriptions which varied markedly from the handbook descriptions were assumed to reflect incorrect or inappropriate use of the strategy. Correct and incorrect designations are not necessarily synonymous with useful and not useful. However, this question was posed to obtain a clearer sense of ways in which respondents used these five key cooperative strategies. Thus it was of interest to researchers to compare teacher descriptions with accepted standards for the strategies. The preponderance of responses were either too vague to ensure a match with the Sharan guidelines, or clearly inconsistent with the handbook's description of the strategy in question. Fewer than 5% of responses, in fact, could be labeled as consistent with the Sharan descriptors, while 61% were clearly inconsistent. The remaining responses did not include enough information to make a determination.

In sections which follow, criteria against which responses for a particular strategy were assessed are provided, along with an example of an "appropriate" description, and a discussion of "inappropriate" responses.

Jigsaw

Jigsaw was the strategy most often described by teachers in a manner consistent with the Sharan handbook. A description was assumed to be appropriate if it referred to students focusing on a portion of a larger topic in one group and sharing expertise with students in another group. An example of an appropriate description is, "Members of the original group go to a break-out group to learn specific information which they must then teach to their original group." Most teachers correctly describing the strategy appeared to use it as a way to have students read and share portions of a textbook chapter. No mention was made of products resulting from Jigsaw. No teacher discussed basing either base group or focus group assignments on student readiness or interest. One teacher noted the use of Jigsaw to "cover information that isn't very important, where it doesn't matter if students remember the details the next day, week or month." One described the use of jigsaw puzzles in class. Another described the strategy as "partners picked out of a hat for a game."

Teams, Games, and Tournaments

This strategy was by far the most widely reported and also appeared to be the most widely misunderstood. A description was considered appropriate if it approximated students reviewing materials within heterogeneous review teams and competing for points for those teams on homogeneous competition teams. An example of a response classified as appropriate was, "1) Teach lesson, 2) Students work on review sheets and other activity sheets in their groups, 3) Review game played with top three teams getting points day before test, 4) Test, 5) Most improved team gets extra points." The most common misunderstanding of the strategy was its use as synonymous with playing any games in the classroom, particularly Bingo and games based on the television quiz show Jeopardy! Several teachers mentioned awarding of points based on scores rather than improvement, a tactic which may over-reward quick learners and under-reward struggling learners. One described the strategy as useful for computer programming.

Student Teams Achievement Division

Student Teams Achievement Division (STAD) was not often described by responding teachers, but was also not as often mis-described as the other four strategies. A response was considered consistent with the handbook description if students studied together and were tested separately, with points awarded to groups based on improvement. A description judged to be consistent read, "Students work in groups to complete workbook, study words, and activities. Individual scores are given on tests. Group improvement points are given." The most common applications of STAD were for spelling and test review. Again, a number of teachers described awarding of points based on test scores rather than improvement. Several inappropriate descriptions of STAD included groups completing projects, students preparing presentations together, trivia contests, finding longitude and latitude, and teams playing games.

Cooperative Integrated Reading and Composition

This is a formal and structured program which, when used according to handbook specifications, should include homogeneous reading groups, heterogeneous reading teams, basal activities, partners reading and checking, testing, direct instruction, integrated language arts and writing, and independent reading. No teachers reported using all of these elements in their application of CIRC. One teacher whose description approximated a portion of the strategy wrote, "Paired reading is used. Pairs read one column of material. One person then summarizes while the other acts as an accuracy checker. Roles are switched." While this is an accurate representation of a portion of CIRC, it includes only a small part of the strategy. Most teachers who explained their use of CIRC appeared to be describing instead peer editing, reading workshop and/or writing workshop strategies associated with many language arts programs. Among activities described as CIRC were: integrating language arts and social studies, teaching outlining, note taking, learning about main ideas, use of portfolios, and providing supporting details.

Group Investigation

For a cooperative activity to be appropriately described as Group Investigation, students should determine subtopics for research as a class, then join self-selected research groups determined by their own interests. Groups should plan and carry out investigations and presentations themselves. Use of the strategy should foster intrinsic motivation on the part of students. No teacher responses reflected these characteristics. Research activities described typically appeared to be teacher-generated, or the source of topics was unspecified. Among activities described as Group Investigation were: group projects, science experiments, math problem solving, helping special education students review for tests, working with cubes and other manipulatives, and critical thinking exercises.

Other

Teachers had an opportunity to list and describe cooperative strategies other than the five listed on the survey. One teacher described a strategy called Round Table in which each team has a sheet of paper passed from pupil to pupil. Each student takes a turn writing an answer to a problem or adding facts to review. Two respondents described Think-Pair-Share. One wrote, "Teams are given a problem or question. Two people discuss it in each group. Then they share answers in large or small groups." One teacher described a kind of cooperative learning other than the targeted ones as follows:

> Students are randomly grouped and given four chips. As I go around the room, the group gets more chips as they work cooperatively and lose them otherwise. The most chips wins a reward. One person's work is used randomly for everyone's grade.

Another described a practice whereby students make appointments to work on problems together.

CHAPTER 5: Discussion

The middle school surveys yielded a large amount of data, both qualitative and quantitative, lending to many iterations of elaboration and interpretation. On some level, however, it is a preliminary study, leaving as many questions unanswered as answered. This chapter of the report will examine a few findings which appear important both for gaining insight into current middle school beliefs and practices related to academic diversity and for charting future directions in staff training at the middle level as well as additional research.

Implications of Beliefs and Practices for Academically Diverse Middle Schoolers

As beliefs and practices of middle level educators were reflected in data from this study, there was both good and bad news for academically diverse middle schoolers. On balance, however, there appears to be much room for middle level educator growth in effectively addressing the unique needs of early adolescents with diverse needs. This was time for teachers working with students who were struggling, who were advanced, and/or whose cultural backgrounds sculpt their learning profiles in ways which bear important implications for teaching and learning.

For purposes of discussion, we considered "positive" those beliefs and practices which: (1) reflected awareness of and sensitivity to differences in students' academic profiles, (2) demonstrated modifications in curriculum and instruction responsive to student differences in readiness, interest, and/or learning profile, and (3) enhanced the likelihood of curriculum and instruction responsive to academically diverse middle schoolers.

Conversely, beliefs and practices were considered to be negative if they: (1) reflected lack of awareness of or sensitivity to differences in students' academic profiles, (2) were indicative of one-size-fits-all instruction in which most/all students were expected to complete the same learning tasks, presented in the same way, and over the same time span, and (3) diminished the likelihood of curriculum and instruction responsive to academically diverse middle schoolers.

The capsule of some key positive, negative, and interesting (but equivocal) indicators which follows is presented in terms of their apparent alignment with positions espoused by the NMSA and the middle school educators who took part in this study, school organization, and curriculum and instruction (including assessment of students and cooperative learning). Finally, an overview of differences between principal and teacher responses related to dealing with academic diversity in the middle school is presented.

Degree of Match Between NMSA Positions and Participating Schools

There appeared to be a number of instances in which middle school practitioners represented in this study were in close alignment with positions taken by NMSA, and a few in which alignment was not as close. Clearly teachers and principals who responded to the survey placed a high value on establishing positive school environments for early adolescents, the use of interdisciplinary teams which included students of varying readiness levels, and the use of cooperative learning as an effective alternative to homogeneous grouping. While alignment in these areas was great, it was not absolute, with practitioners holding onto a belief in the need for some special classes for exceptional learners, and over a quarter of responding schools using department structures rather than interdisciplinary teams. Further, use of interdisciplinary teams infrequently extends to shared teaching and flexible grouping of students among classrooms within a team. Standard report cards still appeared important in charting student progress, while far fewer than half of responding schools assigned students to the same advisory group across the middle school years, or created schools within schools. Beliefs about the nature of middle schoolers (discussed later) seem reflective of older, but difficult to revise, images of early adolescents stemmed from stereotypes and early middle school writings. This perception of pre-adolescents seemed to persist in spite of the fact that 88% of responding principals reported reading at least one issue of *Middle School Journal* per year. While 76% of principals believe that NMSA provides adequate guidance in establishing a positive middle school environment, only 54% believe guidance is adequate in addressing needs of special education and advanced/gifted learners. Forty-seven percent felt NMSA provided adequate guidance in assessing student readiness. Guidance from NMSA materials and conferences was ranked by principals as 16th in importance of 16 factors which influence instructional practices in their middle school.

School Organization and Academic Diversity

On the positive side of the ledger relating to school organization and academic diversity, principals reported that interdisciplinary teams are more prevalent as an organizational mechanism than is departmental structure (61% to 29%). Further, 56% of principals reported common planning time for faculty members on a given team. These findings suggest that many teachers are provided with organizational structures which invite collaborative focus on individual students, flexibility in dealing with individual differences, and shared expertise in responding to variations in student readiness, interest and learning profiles. It was beyond the scope of this study to determine the degree to which these potential positives of organizational arrangement are realized.

On a less optimistic note, slightly over half of responding middle school principals believed their teachers were adequately to well prepared to address the needs of special education students (54%), remedial students (59%), and advanced students (57%) in the regular classroom. In that light, it is troubling that consistent use of specialists with interdisciplinary teams is scant. Whereas 50% of principals reported weekly to daily use of special education specialists with interdisciplinary teams, only 29% reported similar use of specialists for remedial learners, and only 20% for advanced learners. Similar concerns might be raised about responsiveness to students' academic diversity, assuming accuracy of principal estimation of teacher preparedness to address that diversity, in light of principal reports that special education students are placed on all teams (58%), learners at-risk for educational failure are placed on all teams (71%), and advanced learners are placed on all teams (64%). If principals' estimations of teachers ability to respond to individual exceptionalities is accurate, then the challenge is for teachers, given the broad heterogeneity of teams will be multiplied.

A discouraging finding was the principal responses that suggest that the most typical middle school classes are heterogeneous in nature with the same general curriculum for most students and lecture and practice as the chief mode of instruction (29%), followed by heterogeneous classes with the same general curriculum for most students and cooperative learning as the chief mode of instruction. Only 18% of principals report common use of heterogeneous classes with differentiated curriculum based on student readiness and/or interest. Flexible grouping and regrouping are reported as typical by only 8% of principals. Fewer than 1% report use of multi-age arrangements.

It is interesting that heterogeneity is relatively pervasive in these middle schools, with 64% of principals reporting students of differing levels of academic readiness routinely assigned to the same classes. Nonetheless, both teachers and principals in noteworthy numbers hold on to a belief in the appropriateness of some special classes for remedial, special education and advanced learners. Teachers were less confident of total inclusion/heterogeneity than were principals. Both principals and teachers appeared less confident in full inclusion for special education learners than for remedial learners. Thus, whereas *full-time* classes for advanced learners were supported by 28% of principals and 38% of teachers, and full-time classes for remedial learners were supported by 27% of principals and 37% of teachers, full-time classes for special education students were supported by 35% of principals and 47% of teachers. Approximately half of principals and teachers supported *part-time* classes for remedial, advanced, and special education learners at the middle level. These numbers may suggest that many middle level educators still focus on adaptations in curriculum and instruction for academic diversity made between rather than within classes.

Curriculum, Instruction, Assessment, and Academic Diversity

A major portion of the current study focused on beliefs and practices related to curriculum and instruction as those elements might impact academically diverse middle level learners. Again, no attempt is made to discuss all findings delineated earlier in the report. Rather, a capsule of positive, negative, and interesting (but equivocal) findings which appear to raise important questions and/or provide directions for future work are noted, this time by categories of: (1) beliefs about students, (2) beliefs about curriculum, (3) instructional practices, (4) student assessment, and (5) cooperative learning.

Beliefs About Middle Level Students

Perhaps the most troubling set of responses in the study relates to principal and teacher beliefs about the nature of early adolescents. If educators teach with an audience in mind, one would assume that teacher beliefs about the nature of that audience would profoundly shape both what is taught and how it is taught. If that is the case, then beliefs reported by both principal and teacher respondents in this study appear to be the harbinger of curriculum and instruction which would vastly underchallenge advanced middle school learners—and likely underchallenge most other middle schoolers as well. Here middle school learners are painted as more social than academic by principals (78%) and teachers (84%), as concrete thinkers (P=73%, T=76%), working best with routine (P=87%, T=92%), extrinsically motivated (P=76%, T=72%), and easily discouraged (P=61%, T=65%). Clearly respondents did not see middle schoolers as able to think at high levels (P=29%, T=21%). While 71% of principals believed early adolescents can work independently, only slightly over half of teachers shared this belief. Likewise, while only 39% of principals viewed their students as weak in basic skills, 62% of teachers did. It is certainly cause for concern that nearly half of principals and teachers still believe that middle school learners are in a plateau learning period—a theory which espouses the notion that basic skills instruction, low level thinking, and small assignments are appropriate fare for students who are easily overstressed by academic challenge.

Slightly more optimistically but somewhat in conflict with views about concrete versus abstract thinking and degree of high level thinking, 58% of principals and 80% of teachers did believe their students are eager to discuss ambiguous ideas.

Beliefs About Curriculum

When the middle school educators were asked to rate and rank the importance of 16 factors which may influence decisions regarding curriculum in the middle school, both teachers and principals rated all 16 as at least somewhat important. In ranking the factors, however, principals reported designing core curriculum and instruction beneficial to all students as most important and as second most important teaching thinking. Teachers reversed the principals' top two choices, with teaching thinking reported as the most important factor and developing core curriculum and instruction beneficial to all students as second in importance among the 16 factors. For purposes of academically diverse learners, development of a core curriculum beneficial to all would seem positive if interpreted to mean varied routes to content, process, and product responsive to varied student needs, and negative if interpreted to mean the *same* core curriculum for all students—including those who struggle with its contents and those who are advanced as learners. Likewise, it would appear that curriculum and instruction which focus on thinking would work to the benefit of all exceptional learners, at least if one can assume that individual differences in cognitive development are taken into account in planning tasks to promote thinking—that is, avoiding "one-size-fits-all thinking" or sense-making activities. The current study provides equivocal clues regarding these interpretations. For example, principals ranked as fourth in importance among the 16 factors affecting curriculum "modification of curriculum based on individual differences"—teachers ranked it sixth. Further confounding clarity about the importance of individual differences, both principals and teachers ranked (and rated) as lowest among the 16 elements shaping curriculum: allowing students to work on tasks of their own choosing, modifying curriculum and instruction to encourage development of varied talents in students, and modification of curriculum to address cultural differences.

Instructional Practices

When given paired statements from which they were asked to select the more typical classroom descriptor, principals and teachers agreed that their middle level students are far more likely to practice knowledge than to act on knowledge and far more likely to engage in part-to-whole learning than in whole-to-part learning. Acting on knowledge would appear more developmentally appropriate for middle level learners in general (Manning, 1993), to have particular benefits for advanced learners who have typically mastered what other students may yet need to practice, and to benefit struggling learners for whom active learning plays an especially important role in developing motivation, a sense of relevance, and meaning making (Levin, 1991). Similarly, whole-to-part learning appears especially important for the learning profiles of many struggling learners (Brooks & Brooks, 1993) and culturally diverse learners (Ford, 1994) so that frameworks of meaning are constructed through which data can be processed and into which data can be stored.

Both principals and teachers reported that classrooms are more likely to be marked by variety than by routine. While this would appear beneficial to middle schoolers in general, and perhaps especially to students who are advanced in their learning as well as those who might benefit from alternative routes to learning, the response stands in contrast to the previously referenced, very strong belief statement by both principals and teachers (87% and 92% respectively) that early adolescents work best with routine.

Respondents were also asked to rate frequency of use of a range of instructional strategies helpful in addressing student diversity (preassessment of student readiness, tape recording content for students with reading problems, compacting, learning contracts, tiered assignments, advanced organizers, breaking down work into small parts, independent study, interest groups, learning centers, use of computers for remediation, use of computers for advancing learning, allowing varied expression of student learning, flexible pacing, use of graduated rubrics, use of mentorships for advanced learners, use of mentorships for remedial/struggling learners, and use of student generated criteria for products). Half or more of teachers reported that they never use or use only a few times a year 13 of the 18 strategies. The only strategies reported used at least weekly by as many as a third of responding teachers were breaking down work into small parts, independent study, and allowing varied expression of student learning. Even these three strategies were reported used at least weekly by only 37% of the teachers. Of these three strategies, one appears most likely used with struggling learners (breaking work into small parts), one with advanced learners (independent study), and one with a broad range of middle schoolers (allowing varied expression of learning).

Similarly, teachers seem to use few of the structural arrangements useful in addressing variations in student readiness at the middle level. Eighty percent or more of teachers responding said they never or almost never used parent volunteers to work with students identified for special education services (80%), parent volunteers to work with remedial students (81%), parent volunteers to work with advanced/gifted learners (84%), or developmental age grouping (80%). Forty-eight percent of teachers reported never or seldom using learning labs, and 51% reported never or seldom using advanced co-curricular learning options.

Two structural strategies that appeared more popular were peer tutoring, which 58% of teachers reported using weekly or daily, and before and after school help which 69% reported using weekly or daily. The two structural strategies which appear most commonly used also appear to be focused more on struggling learners than advanced learners, and are dependent upon (1) the skill of peer tutors in assisting age mates, and/or (2) the ability/will of struggling learners to attend out-of-class assistance sessions.

Student Assessment

Asked what constitutes indication of student success, 43% or principals and 45% of teachers responded that pushing individuals to their performance limits was most important, followed by application of complex thinking skills (30% of principals, 29% of teachers), and mastery of basic skills (20% of principals, 24% of teachers). While these indicators contrast somewhat with relative emphasis placed on basic skills in other sections of the surveys, selection of this most important indicator of student success would appear positive for both advanced and struggling learners, assuming that there is not a single standard against which all learners are assessed.

That choice, however, is confounded by two other sets of responses related to student assessment. On the one hand (and more negative in indicating responsiveness to student differences), standard assessment devices appear more powerful than alternative and more individualized ones. Standard report cards and literacy/competency tests were noted by principals and teachers alike as having far more influence on instruction than portfolios and other alternative assessments, and than individual goal setting. On the other hand, teachers and principals both agreed that student effort and individual improvement were the most influential of five factors in student grading, whereas achievement relative to the rest of the class was least influential.

Cooperative Learning

Heralded in the literature of middle school as a powerful instructional strategy which serves well both the cognitive and affective needs of virtually all middle schoolers and which is an effective alternative to homogeneous instructional groups, cooperative learning appears similarly accepted by the middle school practitioners responding to these surveys.

Principals believed strongly that cooperative learning is: an effective alternative to homogeneity (84%), effective in teaching basic skills (88%), effective in promoting respect among ethnically diverse populations (93%), effective in teaching special education students (79%), effective in teaching advanced/gifted learners (84%), and provides needed experience for advanced/gifted learners in getting along with peers (86%). Teachers were only slightly less sanguine about the effectiveness of cooperative learning, with approximately three quarters of teachers affirming principal beliefs in all areas except two. Sixty-seven percent of teachers agreed or strongly agreed that cooperative learning resulted in effective teaching of special education students, and 66% felt it to be effective in teaching advanced/gifted learners. Again, there was strong agreement among principals and teachers that heterogeneous cooperative groups prevail more than half the time that cooperative groups are used (76% of principals and 73% of teachers). Cooperative groups which are homogeneous in regard to readiness, culture or gender appear infrequently used, if at all.

The extreme subscription to cooperative learning as a powerful teaching mechanism for all students, including academically diverse learners who have some learning needs which differ from those of their agemates, appears problematic, and certainly merits additional study, when placed alongside the open-ended teacher responses describing use of cooperative learning in ways which appear ambiguous at best and misguided at worst.

Contrasting Principal and Teacher Views Related to Academic Diversity

In many areas of the surveys, especially those related to beliefs and decision-making, principals and their teachers gave responses which were more similar than different. In other areas, it appeared as though the two groups went to work in different places rather than in shared settings. Three of those instances are particularly interesting in light of the purpose of this study—determining beliefs and practices related to academic diversity in the middle school: responses related to instructional practice, responses related to teacher preparedness, and responses related to reasons why teachers may not provide varied learning options for academically diverse students. In all three categories, principals and teachers diverged widely in their views.

Principal and Teacher Views of Existing Instructional Practice

In virtually all instances when asked about what takes place in classrooms, principals overestimated the use of particular practices when compared with teacher estimations. For example, principals thought teachers used particular cooperative strategies far more often than teachers reported they did, principals thought teachers used more teaching strategies leading to differentiated instruction far more often than teachers reported they did, and principals generally felt teachers made more structural adaptations for diverse learners than teachers reported they did.

Principal and Teacher Views About Teacher Preparedness

Principals and teachers also varied widely in their sense of adequacy of preparation of teachers for different facets of their work. In larger numbers than their principals, teachers generally felt they were adequately to well prepared to: teach special education learners in the regular classroom (T=71%, P=54%), teach remedial learners in the regular classroom (T=83%, P=59%), teach advanced learners in the regular classroom (T=79%, P=57%), establish a multicultural classroom (T=74%, P=38%), manage multiple activities simultaneously (T=81%, P=69%), design multiple activities based on student readiness

(T=79%, P=52%), and assess student readiness (T=86%, P=71%). In four areas, principals had more confidence in teacher preparedness than did the teachers themselves. Teachers were less certain that they were adequately to well prepared than did principals to: assess student growth or achievement (T=75%, P=85%), vary use of supplies and materials based on student need (T=74%, P=84%), teach in middle school (T=73%, P=83%), and teach their academic subjects (T=61%, P=96%).

Principal and Teacher Views of Barriers to Addressing Academic Diversity

When principals and teachers gave reasons why teachers do not provide varied learning options for their academically diverse learners, an interesting dichotomy resulted. Principals pointed to issues of teacher skill and well as the two predominate barriers (e.g., lack of knowledge about how to differentiate instruction (63%), and fear of losing control of a classroom in which varied learning options occurred simultaneously (47%). Other barriers listed as important by principals were teacher concerns over grading and inadequate blocks of time within classes to allow differentiation. By contrast, teachers pointed to issues other than those related to their own skill and will as their major impediments [e.g., seeing no need to differentiate (50%), lack of planning time (40%)]. Only 12% of teachers said lack of knowledge about differentiation was an influential or very influential barrier, and only 12% reported fear of loss of control in a differentiated classroom as influential or very influential. It is especially troubling for struggling and advanced middle schoolers that 50% of teachers reported seeing no need to differentiate instruction for academic diversity as a significant barrier to differentiation.

Conclusion

In the considerable amount of data generated by this study—both closed-ended and open-ended—comes, as one would expect, a portrait of a range of classrooms, teaching styles, and school environments. Some appear more responsive to academic diversity than do others. On the whole, however, several conclusions appear warranted.

- There is ample room for improvement in awareness of the needs of academically diverse populations in the middle school and specific skills required to meet those needs.
- Articulated belief often outstrips its conversion into practice. Beliefs of middle school educators may be more supportive of dealing with academic diversity than their preparation facilitates.
- Limiting views of and beliefs about the nature of middle school learners may limit the capacity/motivation of middle school educators to create and deliver high level, engaging curricula.
- Teachers may believe they are differentiating instruction for student diversity when they are actually, at best, tailoring content, process, and products that remain relatively the same for all learners.
- When middle school educators focus their attentions on academically diverse populations, attention to advanced/gifted learners and culturally diverse learners is typically less emphasized/less important than attention to students identified for special education services and remedial students.
- Expectations for struggling learners are often lowered compared to expectations for agemates, in lieu of modification of instruction which might lead to achievement of higher goals by struggling learners.
- Classroom standardization seemed clearly to predominate over classroom flexibility as a norm.

- Specific instructional and structural strategies which support differentiated instruction for academically diverse populations appear significantly underused.
- Teacher skill in appropriate applications of cooperative learning appears to be lagging behind administrator and teacher confidence in the potency of the strategy to do many things for many kinds of students.
- Principals and teachers disagree on key areas related to ways in which differentiation of instruction for academic diversity ought to or do occur at the middle level. In instances where principals are gatekeepers for allocation of time and resources for staff training, such differences in perceptions of current preparedness and practice may lead to use of those resources in ways less than optimally beneficial to teachers whose needs are different than principals believe them to be.

As is the case with most research, this study provides a partial image. It yields some important and intriguing images of academic diversity in the middle school, and in doing so, invites the asking of many questions not asked in this study as well as a deeper probing of the questions which were asked. To facilitate the latter, prolonged engagement provided by effective qualitative research would be highly useful.

The success of any school rests in large measure on its readiness and willingness to vigorously address the learning needs of all its students. This is surely no less true for middle schools where the developmental range of students is great and establishment of effective, heterogeneous communities of learning is a goal. As NMSA suggests, a high degree of individualization is called for in heterogeneous middle level settings, with a wide range of learning experiences "from those that tax even the most gifted and talented students to those that enable the least capable to succeed with a reasonable expenditure of effort" (p. 22).

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